Standards-Based Education Reforms

Looking Back to Look Forward

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LEARNING POLICY INSTITUTE

OCTOBER 2024

Acknowledgments

The Learning Policy Institute (LPI) provided me with magnificent supporting staff to complete and revamp this work. The term "editor" drastically understates the role and revisions of Jennifer Bland, Dara Liling, Jennifer McCombs, and Julie Serven. Linda Darling-Hammond helped me with sources and advice, including how to incorporate my voice in the narrative of the paper.

I learned much of my education history from the late David Tyack while we taught a course together at Stanford University for 23 years. My understanding of state policy and politics was deepened from 1983–2009 when I was Stanford's Director of the Consortium for Policy Research in Education (CPRE), which was led by Susan Fuhrman at the University of Pennsylvania. My understanding of classroom instruction was deepened by CPRE colleagues Richard Elmore of Harvard University and David Cohen and Diane Massell of the University of Michigan.

Jim Guthrie and I cofounded Policy Analysis for California Education (PACE) in 1983, and it is still going strong after 40 years. The added PACE directors and PACE staff provided much research on California that informed my thinking and the content of this work.

The issues concerning linkages between K–12 and postsecondary education were extensively informed by Andrea Venezia and Pat Callan when they were at Stanford University and the National Center for Public Policy and Higher Education. All of my 15 years on the California State Board of Education stemmed from my relationship with Governor Jerry Brown, whom I met in 1974. He initially appointed me to Standards-Based Education in 1975.

This work was supported by the S. D. Bechtel Jr. Foundation. Core operating support for LPI is provided by the Carnegie Corporation of New York, Heising-Simons Foundation, William and Flora Hewlett Foundation, Raikes Foundation, Sandler Foundation, Skyline Foundation, and MacKenzie Scott. The ideas voiced here are those of the author and not those of funders.

External Reviewers

This paper benefited from the insights and expertise of two external reviewers: Jennifer O'Day, Institute Fellow at the American Institutes for Research and Chair of the California Collaborative on District Reform, and Paul Reville, Francis Keppel Professor of Practice of Educational Policy and Administration at the Harvard Graduate School of Education and founding Director of Harvard's EdRedesign Lab. I thank them for their helpful feedback.

Suggested citation: Kirst, M. W. (2024). *Standards-based education reforms: Looking back to look forward*. Learning Policy Institute. https://doi.org/10.54300/647.623

This paper can be found online at https://learningpolicyinstitute.org/product/standards-based-education-reforms.

Document last revised October 28, 2024

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Preface

The ideas for this paper were created through discussions with the Learning Policy Institute (LPI) President and CEO Linda Darling-Hammond when I began as a Senior Fellow in Residence at LPI in 2019. After almost 60 years of working full-time in education and doing research, I thought it was a good time to reflect on my applied experience at the federal and state levels and to synthesize the research focusing on the impact of standards-based education reforms. It took some time to finish because the COVID-19 pandemic was the overwhelming focus of education policy for 3 years. I wanted to wait until public attention was more receptive to classroom instruction issues and the core subject matter curricula of K–12 schools.

I began my career in 1964 in the federal government just before the Elementary and Secondary Education Act was signed into law in 1965 and learned that the federal government relies on the states to implement most of its policies. In this paper, I wanted to reflect on the historical evolution of state education reform up to 2023.

—Mike Kirst

Executive Summary

This report analyzes the evolution and effectiveness of standards-based reforms in U.S. education. Starting from the increased federal involvement with the Elementary and Secondary Education Act in 1965 to the Goals 2000 launch of more recent reforms, the document explores the role of state governments in implementing systemic reforms aimed at aligning educational components to enhance student outcomes.

The report examines the evolution of standards-based reforms from the rise of state standards in the early 2000s through the present, tracing the theory of the reforms and iterations through several eras of standards and accountability at both the federal and state levels, with a particular emphasis on California, where the author was President of the State Board of Education at the time the state ushered in a new era of standards-based reform.

A key barrier to the implementation of the new standards during the No Child Left Behind era was a focus on targets and sanctions without attention to educator capacity-building or alignment among all the necessary components of reform. A new approach taken in California developed alignment among standards, curriculum frameworks, instructional materials, assessments, and teacher education, coupled with a new, more equitable funding system, and a multiple measures accountability system. While some investments were made in educator capacity, there was not at that time an infrastructure for delivering high-quality professional development intensively across the state.

The report recommends that to fully achieve the goals of standards-based reforms:

- State systemic academic reform concepts must be enlarged in breadth, depth, duration, governance, and funding. The comprehensive set of California reforms described in the report provides an example of how to begin to build structures and systems that help support standards-aligned instruction. Data systems are especially important in bringing all these structures and systems together and ensuring that they are doing the appropriate work to support teaching and learning. Building these systems is work that must be sustained over time.
- Capacity-building for school leaders and teachers must reach far more than a small minority of the total workforce, with responsibility split between the states and a large network of local and nonprofit entities. The complexity of standards-based reform requires much more robust and strategic support for districts and schools and some from state departments of education, but primarily from a network of state-led local entities and nonprofit organizations. Technology and digital platforms can play an important role in expanding the reach of professional development.
- Systemic reform focused on instruction must extend more directly and deeply into central school district operations. In most districts, school reform has barely touched central school district operations like budgeting and finance, human resources, or facilities. Weak and disconnected local central operations undermine progress in instruction and teacher capacity-building by failing to free up money to help improve instruction. In service of systemic standards-based reform that moves the needle on instruction, local districts should include district operations units in their core reform strategies.

- School boards need to maintain a focus on policy that supports instruction. Of the entities involved with school governance and accountability, the school board is best positioned to ensure the coherent linkage of the various components of standards-based reform. To accomplish this, the school board must regularly send a clear message to the full school system that standards-based reform is a primary objective, rather than simply an experiment.
- K–12 schools must transcend their traditional scope and role by bridging postsecondary boundaries and incorporating whole child education. This objective means better involving and integrating career/technical education and postsecondary systems in support of K–12 education. K–12 and postsecondary education operate in fundamentally different worlds in the United States. Essential structures—governance, funding, accountability and assessment, and pedagogy—are kept separate, while large numbers of students regularly flow across the system divide. This objective also calls for moving beyond the formal K–12 curriculum to incorporate a whole child approach to education that enables student learning and prepares students for life post-graduation.
- States and districts should look to international locations where instructionally focused reforms have taken hold and apply lessons that are germane to their local contexts. At a level analogous to state systems, the Canadian province of Ontario and the Australian state of Victoria have produced strong systems of educator professional learning and instructional leadership, with a focus on student equity. National examples from South Korea, Singapore, and Finland also present useful takeaways. Importantly, these entities have relied on large-scale change, using a context-driven architecture and the corresponding operational building blocks rather than relying on smaller nudges or niches to build educator capacity.
- States should build a constituency to support systemic standards-based reform—including authentic integration of the standards into classroom instruction and student learning—to help ensure sustained progress and patience with the process. Three criteria that help ensure whether a reform will stick include new structures, easily accessible evidence of compliance, and a powerful constituency in support of the reform. Standards-based reform, when implemented fully, builds structures and creates more precise data, but it lacks such a constituency. Garnering support through a combination of educator groups and public advocacy could help keep states and districts moving ahead in building supportive structures and capacity for standards implementation.

These recommendations address the complexities of policy implementation and underscore the need for coherent, supported efforts at all levels of the education system. The goal is to ensure that standards-based reforms lead to genuine improvements in teaching and learning that reach all schools and students.

Introduction

Since the 1990s, standards-based reforms have been central to federal, state, and local efforts to improve educational outcomes for students. Over my nearly 60-year career overseeing and researching policy reforms, I have had a front-row seat to the birth and evolution of standards-based reform.

The focus in that era on defining and improving English language arts, math, science, and history/civics curriculum and instruction was grounded in a hope for equitable outcomes for all students. The concept of an instructional guidance system that led to coherent and aligned policies—including instructional materials, assessment, teacher capacity and preparation, finance, technical education, and other areas—was implemented in many states and localities.

Equal opportunity was embedded in many of these policies, such as the 1994 national Improving America's Schools Act, which began with legislation titled Helping Disadvantaged Children Meet High Standards. The standards movement was designed to enable all students to succeed in college and career. It was constructed so that all high school graduates would have the knowledge and skills to proceed with postsecondary or workplace success. The standards were also linked to state assessments that are required by the federal Elementary and Secondary Education Act to identify schools that need more support. However, in the wake of the COVID-19 pandemic, many accountability policies have been suspended or reduced, moving standards from center stage to more of a peripheral issue.

Standards-based reform calls for adopting standards for what students are expected to learn and aligning other components of the education system to those standards in order to dramatically improve student achievement and learning and reduce disparities in achievement and attainment. The vision of the standards movement was equity oriented because it contended that all students should have access to quality educational content and could meet educational standards.

It was initially conceptualized as a systemic approach. However, as a nation, we have not fully engaged in systemic standards-based reform, though we have made tremendous progress on developing content standards. The widespread adoption of state academic content standards has been a watershed moment in the history of U.S. education reform. And experts agree that the "fewer, higher, deeper" most recent wave of standards emerging from the Common Core State Standards puts standards in much closer alignment than any previous framework with what students will actually need to know and be able to do in the 21st-century information economy that awaits them once they complete their schooling.[1]

The Next Generation Science Standards (NGSS) and several state-level history/civics standards[2] offer a similar degree of rigor. However, to date, we have failed to fully and adequately develop the aligned systems that can support teachers, schools, and districts in translating the standards into aligned instruction and have not moved substantially beyond assessment and associated accountability structures.

Some critics advocate for an end to state systemic standards-based reform because they do not believe student-level outcomes have shown sufficient change relative to the time and effort that have been put into them.[3] However, it is naïve to believe that curriculum and assessment standards alone can achieve the desired impact. Given that the newest wave of standards has not been fully implemented, including

through rigorous teacher capacity-building that shifts teacher instruction and student learning toward the deeper learning aims of the standards, it is no surprise that standards-aligned assessments are not yet showing the levels of proficiency that students, teachers, families, and the public are hoping for.

Instead of abandoning standards-based reform, I argue that we need to deliver on the promise of the Common Core standards state-level variants specifically and state systemic reform more generally. We must do a much more thorough job of supporting teachers, schools, and districts in translating the standards into aligned instruction and student learning. Only after the appropriate systems, policies, and supports are in place to help these new content standards be fully realized can their efficacy be reasonably judged.

Standards-Based Reform, Inequity, and the Pandemic

Curriculum standards have been pushed into the background of current education improvement discussions because of a number of major intervening events. Beginning in 2020, the COVID-19 pandemic created an alarming loss in student learning and in the overall health and wellness of children. Numerous indicators have become more negative, including test scores, chronic absenteeism, and mental health/stress.[4] Shortages of teachers,[5] principals, bus drivers, and support staff are widespread. Schools with large numbers of students from low-income families are feeling these shortages most acutely. The most drastic impacts of the pandemic were experienced by students facing disadvantage, students who were already not faring well before the pandemic. The heightened concern about inequities has increased the visibility of policies that look broadly at the whole experience of children and families.

Instead of a unified political response to these problems, there is extreme partisan rancor and disagreement on what to do. Issues such as critical race theory, age-appropriate curriculum, school choice, enhanced parental influence on school boards, and the professionalism of educators dominate much of the media. There is no broad-based political coalition (including business) similar to the 1990–2015 era that helped propel the standards movement to prominence.

Instead of focusing on all the actions needed to address both long-standing and pandemic-induced inequities, this paper homes in on systemic standards-based reform as one method that can, among other supportive strategies, help all students succeed. In this work, I focus on a strategy and specific design to renew interest in and prioritize successful implementation of classroom teaching and learning that enable all students to meet the ambitious standards present in most states.

I posit that there needs to be equal attention given to accountability and capacity-building that enables educators to teach the standards. In the past, there has been a rush to enhance accountability and a slow and feeble attempt to build teacher capacity. This approach stands in contrast to other countries that have successfully enacted more ambitious and large-scale approaches to improve the performance of their educators.

Consistent attention to equity must undergird all our thinking. The standards in place now apply to all students, but differences between low- and high-performing students and schools have persisted and been enlarged by the COVID-19 pandemic.

Core Concepts for Effective Standards-Based Reforms

A few core concepts lend insight into why standards-based reforms have yet to be fully, comprehensively realized and how future policies might take promising steps forward. These concepts—loose coupling, classroom implementation, and stickiness—lay a foundation for the policy examples and recommendations presented later in this paper.

Loose Coupling

Over my decades of working in education policy, I have observed a growing set of objectives and responsibilities that society has expected of schools and teachers—teaching intellectual skills, transmitting social values, nurturing creativity, and promoting good health, among others. Teachers are often charged with carrying out these objectives, and public support for education often depends on whether schools meet the full suite of these objectives. These objectives have multiplied until what we now ask of the public schools goes beyond what they—or perhaps any single social institution—can reasonably hope to accomplish.

So how, then, do teachers decide what to focus on—and what does that mean for the capacity of standards-based reform to take hold inside the classroom? One prevailing viewpoint casts teachers as "policy brokers" who take higher-level policies and pressures into consideration but also enjoy significant professional independence. According to Schwille et al.:

> In this semi-autonomous role, teachers are better understood as political-brokers than as implementors. They enjoy considerable discretion, being influenced by their own notions as to what schooling ought to be as well as persuaded by external pressures. This view represents a middle ground in the classic sociological contrast between professional autonomy and bureaucratic subordination. It pictures teachers as more or less rational decision-makers who take high-level policies and other pressures into consideration in their calculation of benefits and costs.[6]

The result is a "loose coupling" between inputs—between federal and state policy relating to standards-based reform and outcomes related to how students learn within the context of those standards. Because of the organizational structure of schooling, the concept of loose coupling has become a widespread descriptor for the education policy implementation process writ large.[7] As I wrote in 1982, "The basic notion [of loose coupling] is the tendency of educational organizations to disconnect policies from outcomes, means from ends, and structure or rules from actual activity."[8]

The concept of loose coupling as it applies to standards-based reform does not imply that there is no classroom-level instructional impact, but it does imply that this impact will be highly inconsistent in the absence of thorough, targeted support on standards-aligned teaching methodologies or curriculum construction—support that has yet to materialize on any sort of broad basis at the level necessary to move the needle on instruction. And while loose coupling is perhaps most easily observed when it relates to teachers and teaching, the concept of loose coupling aptly describes the interaction of any and all systems related to the provision of education. The system is loosely coupled from the top—in Washington, DC—to the bottom—in any given classroom.[9] Effective policy implementation, then, requires achieving buy-in at the various levels of the system. Policymakers cannot simply dictate from the top down.

Classroom Implementation

Whether and how federal and state policies can make their way into the classroom and influence teaching and learning is crucial to the analysis I am presenting. After all, if the potential of standards-based reform—and specifically the Common Core standards and their state-level variants—requires modifications to classroom-level instruction, it is crucial to understand and be able to replicate the conditions where these modifications can occur.

Research tells us that federal and state policies can impact classroom teaching under the following conditions:

- Legislative policy interacts with other legislative acts in ways that are mutually supportive and coherent.
- Legislation impacts school internal control systems that influence teaching.
- Countervailing pressures of other district and site internal standard operating procedures or mechanisms offset the effects of changes from categorical (or single purpose) programs.
- Legislation is properly formulated to secure support from teachers, whose behavior it is intended to influence.[10]

As I wrote with Gail R. Meister in 1985 in regard to support from teachers:

> The history of pedagogical reforms is not encouraging in cases where the reforms were imposed on teachers from a central authority and were destined for universal application with students. Several explanations may account for this observation. Most of the available evidence suggests that decisions about instruction require the active involvement of teachers if they are to be successfully implemented. In addition, teaching and learning are a combination of art and science, where there is no definitive set of inputs that guarantees a certain outcome. Educational programs that are found to be effective are often best adapted only to particular groups of students. These factors require the wisdom of local decision-making about allocation and adaptation—an element usually absent from centrally imposed, universally applied instructional reforms.[11]

On a related note, sufficient teacher capacity-building is needed to implement policy reforms in classrooms, though such capacity-building is rarely provided for by federal, state, or local policymakers. No matter how many well-intentioned reforms are layered onto schools and districts, a given school will simply never be better than the capacity of its professional educators to deliver the instruction that best serves its students. Educators' capacity to enact standards-based instruction depends on knowledge, skill, and a broader support system that includes positive working conditions that enable educators to enact their skills in practice.

No matter how many well-intentioned reforms are layered onto schools and districts, a given school will simply never be better than the capacity of its professional educators to deliver the instruction that best serves its students.

To be optimally effective, capacity-building for school leaders and teachers must reach far more than a small minority of the total workforce. When it comes to hands-on support for standards-aligned instruction, capacity-building efforts must be wide-reaching, thorough, consistent, and sustained.

Stickiness

Beyond creating conditions for classroom-level changes to occur, it is also crucial that these changes persist. To realize the shifts in student knowledge, skills, abilities, and understandings envisioned by the standards-based reform movement, modifications to teaching practice that lead to modifications in student outcomes will need to be consistent from year to year and scaffolded from grade level to grade level. They must also be widespread. After all, if a reform mostly disappears, persisting in only a few places, it is much more difficult to label it successful.

The foremost attribute of a state reform should be its "stickiness"—that is, whether it is more than just an ephemeral project in relatively few locations. This question of stickiness versus ephemerality is paramount in understanding whether a reform will survive, which in turn helps us understand how to make standards-based reforms such as Common Core and its variants stick with fidelity to the instructional improvements envisioned by their architects.

While many reforms have left some residue of change in the classroom, others have disappeared without a trace. A number of studies can shed light on why some reforms have persisted and others have not. Indeed, the successes of the past suggest strategies for future reforms.[12] These reforms that stick share three crucial attributes:[13]

1. **New Structures.** Changes in organizational or physical structure tend to persist over time. For example, the institution of vocational education programs persists in part because it requires changes in the physical school layout to provide special facilities and the creation of administrative structures to oversee the programs.

2. **Powerful Constituencies.** Legislative changes that add new student rights, often accompanied by layers of specialized personnel to carry out the new functions, also tend to persist. For example, programs in instruction for students with disabilities or bilingual instruction have persisted not only because they are embedded in federal law but also because they created new constituencies of parents advocating for services and professional educators offering those services.

   The special state-granted certificates in remedial reading or bilingual education differentiate the specialist from the regular classroom teacher; thus, the specialists created become a distinct professional group and represent a constituency for the maintenance of the program. Health education courses that required personnel changes in schools also created powerful lobbies of professionals as well as interested nonschool groups such as drug abuse organizations. Ties to extra-local authorization and funding of the new specialist groups in schools also strengthen their visibility and lobbying power and the durability of their programs. Specialized personnel with weak political constituencies (such as school psychologists) or strong organized opposition (such as campus police) are more vulnerable to cutbacks or elimination. Some state reforms encounter negative constituencies, such as teacher union opposition to evaluation through statewide standardized tests.[14]

3. **Easily Accessible Evidence of Compliance.** Reforms that generate accessible evidence of compliance also tend to persist. The reforms that introduced new pupil classifications and related services, such as lunch for children from low-income families and honors programs for students deemed "high achieving," can be easily monitored. Other examples of easily monitored reforms include those related to student rights and procedures, such as those that mandate an individualized educational plan and a legal procedure (e.g., appeal provisions) for placing a child in programs for students with disabilities. Finally, mandated state testing reforms, which take advantage of easy-to-monitor evidence of compliance, are likely to last.

There are plenty of examples of what sticks and what does not. The Advanced Placement (AP) program, which meets each of the criteria to stick, indeed has been in place since the mid-1950s and has proliferated through high schools across the United States. The AP program, which can offer college credit for advanced courses that students take in their high schools: (1) has caused changes in organizational structure in the form of separate courses; (2) has created powerful constituencies, including administrators and faculty at the colleges and universities that accept AP credit; and (3) can be easily monitored through the national standardized tests that students take at the end of each course.

As an example of a reform with less stickiness, Meister and I wrote in 1985 with respect to teacher pedagogy:

> Practices within the classroom are difficult to monitor and to change. These reforms not only fail to mobilize special constituencies who will monitor the innovation, but they also fail to produce organizational changes outside the classroom. New teaching techniques depend on a scaffolding of institutional changes, such as training mechanisms and intensive staff development, as well as on teacher willingness. The freedom that teachers have to exercise professional discretion in their classrooms means that, unless they support such reforms, the reforms are unlikely to last.[15]

Newer areas of state policy focus, such as the new Common Core State Standards, no longer stay on the periphery of the academic core, as was the case with categorical programs for students with disabilities or students from low-income families. The most recent state government initiatives target the instructional core of schools, prescribing what should be taught, how it should be taught, and who should teach it. What will become of these reforms depends on how effectively the interested constituencies can overcome the barriers that have historically prevented systemic reforms from having an impact on classroom practice.

Why Call for a Major Overhaul Now

Now is the time to figure out how to overcome the fragmented nature of a system of 50 states and 14,000-plus school districts with more than 7 million employees to bring standards-based reform fully into the classroom. The challenge is daunting. The last mile in K–12 education delivery has always been determined by teachers' instruction and effectiveness in their individual classrooms. A statewide instructional guidance system like Common Core is a needed and useful first step, but it is a long, winding, obstacle-laden path from state capitols to millions of classrooms. There has been a substantial gap between an intended curriculum by some central entity versus the curriculum implemented in most classrooms. No state has fully developed a comprehensive and massively scaled educator support system to overcome these widespread disconnects between the instruction that the Common Core standards demand and that which teachers and principals are equipped and supported to provide.

Some changes can be implemented quickly and easily, but lasting reform is more difficult to accomplish. The long delivery chain from the state capitol to teachers and students in classrooms involves many state and local intermediaries who must also participate in reform. The various structures and individuals at all levels that must respond to education reform efforts as well as accommodate and sustain such planned change mean that implementation is a daunting task.

Ideally, we would have a precise measuring scale that would reveal the quantity or level of implementation in each school for specific reforms. This measuring scale would also be longitudinal, with such indicators as durability of implementation. It is unlikely, however, that we will ever arrive at these answers with the level of precision desired. Since we have no such scale, we must rely on less direct evidence and await further research.

In a 2021 book chapter that discusses the United States's "generally flat performance" on national and international standardized tests and the persistence of achievement gaps over the past several decades, Eric Hanushek comments:

> The remarkable aspect of these outcomes is that federal and state programs have changed significantly—considerably greater resources, added school choice, test-based accountability, and school desegregation. Because of the importance of skills for the economy, it is important that the schools improve, but there is no indication of finding the set of policies that will do this.[16]

Despite the issues relating to the validity and reliability of standardized tests, Hanushek's observation is a reasonable one. Regardless of how one interprets the nuances of long-term U.S. trends on standardized tests, the need to find a collection of policies that will help adjust American students' growth further upward and close vast U.S. achievement gaps is real.

I challenge the contention that there is no indication of finding a set of policies that can ultimately accomplish improved growth. I propose that one answer lies in achieving full implementation of holistic statewide policies that have already been conceptualized—and are in various stages of development and implementation—to support the teaching and learning of standards developed in the 2010s in the four core academic content areas. The United States has never scaled up capacity and infrastructure to support state standards so that they are truly embedded in classrooms and supported by the appropriate complementary systems. It is time that we try.

Overview

My successes and failures from decades of experience serve as the impetus for writing this paper. These words are intended to help state policymakers, practitioners, and researchers rethink and redesign state policies focused on improving classroom instruction in alignment with the promise of the Common Core standards, the Next Generation Science Standards, and high-quality state history/civics standards.

To this end, I first describe the evolution of standards-based reform (see Setting the Stage for Standards-Based Reforms). I describe the growth of the federal and state roles in education and the state reform efforts spurred by *A Nation at Risk*, which set the context and sowed the ground for standards-based reform. I then discuss how standards-based reform has evolved (see The Evolution of Standards-Based Reforms). While incremental progress was made throughout many states, there were varying levels of local buy-in, classroom implementation, and stickiness.

To highlight a promising example, I focus on my experience implementing systemic standards-based reform in California in the 2010s, when I was president of the State Board of Education (see Implementing the New State Content Standards: A Deep Dive in California). This section demonstrates how states can begin to build structures and systems that help support standards-aligned instruction.

Based on the current status of systemic standards-based reform in the United States, the remaining sections focus on recommendations in issues that can ultimately help facilitate standards implementation and associated student outcomes. They explore opportunities for expanding the strength and reach of capacity-building for school leaders and teachers, developing greater connection to school district operations, and refocusing school board efforts (see Reflections From a Career in Standards-Based Reform); expanding the scope and role of K–12 schooling to include postsecondary preparation and whole child education and applying lessons from large-scale reforms that have taken hold (see K–12 Education: Expanding the Scope and Role); and building constituent support (see A Constituency for Systemic Standards-Based Reform: Ensuring Sustained Progress).

Many of these recommendations are not easy to accomplish, and most are relatively new and untried. However, they are not made lightly, and they are infused with perspective from nearly 60 years of experience working on policies related to teaching and learning.

Setting the Stage for Standards-Based Reforms

The road to standards-based reforms is winding, laden with numerous proposed strategies to strengthen curricula and enhance student achievement. Along the early parts of this path, experts came to realize that reaching these goals for student achievement requires more than a well-conceived policy framework or high-stakes incentive, but rather an ecosystem of supports spanning the federal level to the classroom. While research of the past decades affirms this notion, there has been little evidence of such a support network actualizing, particularly at the school level for educator capacity-building.

Developing such an ecosystem in the United States is challenging. The United States has a fragmented public education governance system that encompasses 50 states and approximately 14,000 local school districts. These numerous organizational systems are surrounded by many fragmented interest groups, including advocacy groups for and against nearly any education initiative. There is no simple answer to the question concerning who is in charge of U.S. K–12 education. One real possibility is everyone and no one.

A Growing Role for the Federal Government

Following a long period of stasis in public education, political movement in the 1960s catalyzed decades of evolution in education policy. Local control dominated K–12 education-related governance and policymaking for more than a century leading up to the 1960s, with primacy of responsibility at the district level and minimal roles for states or the federal government. Large-scale federal aid was blocked by political deadlock, which ended with the first federal Elementary and Secondary Education Act (ESEA) of 1965. President Lyndon Johnson's approach was to establish federal categorical funding procedures, in which funds were allocated for categorical programs or particular pupils—specifically, in the 1960s and 1970s, students of color, students from low-income families, and students with disabilities. These categorical programs increased a focus on funding equity and provided the federal government additional levers to influence public schools.

There are a range of leverage points through which federal policy can stimulate state and local action, largely having to do with school funding. Over the last 60 years, there have existed six main federal approaches to providing public school funding, some through direct provision of funds and others through specific funded services or activities.

Modes of Federal Influence Over Public Schools

Give General Aid. Provide no-strings-attached aid to state and local education agencies or minimal earmarks such as teacher salaries. A modified form of general aid was proposed by President Ronald Reagan in 1981. He aimed to consolidate many categories into a single block grant for local education purposes. No general aid bill has ever been approved by Congress.

Stimulate Through Differential Funding. Earmark categories of aid to provide financial incentives through matching grants, fund demonstration projects, and purchase specific services. This is the approach of the Every Student Succeeds Act of 2015.

Regulate. Legally specify behavior; impose standards; or certify, license, and enforce accountability procedures. The Title IX regulations concerning equity in school and college athletics are a good example.

Discover Knowledge and Make It Available. Perform research, gather data, and make other statistical data available. The National Center for Education Statistics is an example.

Provide Services. Furnish technical assistance and consultants in specialized areas or subjects. The Office for Civil Rights within the U.S. Department of Education advises school districts that design voluntary desegregation plans.

Exert Moral Influence. Develop vision and question assumptions through publications and speeches by top officials. For example, the Secretary of Education has a bully pulpit for advocacy.

Source: Kirst, M. W. (1982). *Teaching policy and federal categorical programs* [Program Report No. 82-B1]. Institute for Research on Educational Finance and Governance, Stanford University. (pp. 4–5).

A Nation at Risk and Growth of State Reforms

The 1983 report *A Nation at Risk* galvanized a "virtual explosion of concern about the quality of American education," according to an analysis that came on the heels of the groundbreaking report.[17] The Reagan administration report accused U.S. schools of educational disarmament, a rising tide of mediocrity, and falling behind other countries that were our international economic competitors.[18] Whether or not there was an actual rising tide of mediocrity, I wrote later in 1983, "There certainly is a rising tide of reports criticizing public education. Indeed, this is a brief period when education policy is at the center stage of national and state debates."[19]

The cascade of national reports that were produced in response to *A Nation at Risk* resulted in a dramatic state response and spurred the growth of state education agencies and a set of state reform efforts.

These new reforms focused largely on improvements to academic rigor and instructional quality. Larry Cuban explained how this focus evolved in an interview with *Phi Delta Kappan*:

> In the late 1970s and early '80s, the corporate sector went through a lot of restructuring because of deep concerns about falling behind global competitors like Germany and Japan. And this concern bled over into debates about education, most notably in the 1983 *Nation at Risk* report, which gave us this notion that the public schools are, somehow, responsible for the health of the economy. In turn, that led to the argument that we need stronger curriculum standards, tighter graduation requirements, more frequent testing, stronger accountability, and on and on.[20]

In summer 1983, three of the largest U.S. states—California, Florida, and Illinois—all passed significant reform packages. "What was most striking in terms of state–local relations," I wrote in 1983, "was that the states seized the initiative, and the local school organizations and professional education organizations reacted with suggestions for marginal change. This promises to restructure state–local relations with considerably more state influence."[21]

Examples of State Reforms From the Early 1980s

According to Richard Elmore, new state reform activity in the first half of the 1980s included enormous variations in aggressiveness of the state-level reform packages. In this era:

- Florida enacted a $425 million increase in education funding, including merit pay, graduation requirements, improved math–science programs, and higher academic standards.
- California's 1980s reforms (costing $800 million in new funds) included funding for mentor teachers, a Golden State achievement exam for seniors in high school based on the New York State Regents exam, financial incentives for more school minutes, increased beginning teacher salaries, and revised student discipline criteria.
- Illinois raised income and sales taxes to fund stricter graduation standards, fiscal incentives for gifted students, and mandatory collective bargaining.
- Minnesota provided $6 million for several initiatives, including subject matter inservices for teachers and an Academic Excellence Foundation.
- The New York State Regents proposed an extensive set of academic standards measures, including increased graduation requirements and the extension of the school year by 10 days for students and 20 days for teachers.
- Twenty states increased their requirements for admission to their public universities by stressing heavier academic loads for juniors and seniors.
- Tennessee, New Jersey, and numerous other states revised their teacher evaluation, certification, and pay policies.

Source: Elmore, R. F., quoted in Kirst, M. W. (1983). *State education policy in an era of transition* [Policy Paper No. 83-C7]. Institute for Research on Educational Finance and Governance, Stanford University. (p. 2).

Where previous state policies had focused at the edges of the core instructional responsibilities of schools and teachers—for example, by focusing on individual subpopulations such as categorical programs for students with disabilities—the new state initiatives moved reform toward the heart of instructional policy. These shifts included a focus on "what should be taught, how it should be taught, and who should teach," as I wrote in 1983.[22] But, echoing a theme that carries throughout this paper, and indeed throughout my career, I went on to caution that:

> State regulations cannot be easily adapted to diverse local school site contexts. Moreover, there is a contradiction between state policies to attract and retain high-quality teachers and state minimum standards for classroom content coverage. Teachers [are more likely to] be attracted to independence and creativity, not a need to cover the state-required subject matter and align instruction to items on statewide tests.

The Consortium for Policy Research in Education (CPRE) conducted a 5-year study beginning in 1986 to shed light on the implementation and the effects of statewide education reforms that typified trends brought about by the widespread public response to *A Nation at Risk*. The study identified six medium to large states—Arizona, California, Florida, Georgia, Minnesota, and Pennsylvania—to reflect the range of

state approaches to reform that were occurring at the time.[23] The study also built on other reports on state education reforms, as well as interviews with leaders of those reforms at the state and national levels. CPRE's tracking of education reform in the six study states, and more general observation of others, suggested several key conclusions about the burst of state activity that occurred in the 1980s:

- **The highest level of state activity was in mandating more academic courses and changing teacher certification and compensation policies.** States across the nation made substantial efforts to give their students more academic content. Forty-five states either specified for the first time or increased the total number of credits required for high school graduation. But not all academic reforms suggested by *A Nation at Risk* were as popular as new graduation requirements and testing programs. Reform aimed at changing the organization of instruction or altering decision-making practices within schools did not generally garner much support.

- **There was very little resistance to reforms that involved increasing academic content.** Many districts actually welcomed the changes for several reasons, namely (1) the reforms seemed to legitimize existing practices in many states, (2) implementing the reforms was not difficult, and (3) there was widespread public support for the reforms.

- **Most state reform packages lacked coherence.** In general, reforms that are designed as coherent packages with mutually reinforcing parts have the greatest influence on districts, schools, and teachers. However, the most common problem with 1980s reforms was not that specific provisions conflicted, but that they were often unrelated. This fragmentation sent a barrage of signals to districts, whose administrators were then forced to make complicated decisions about how to allocate time and money. The most glaring example of conflict between different reform strategies occurred in the area of teacher policy. Many teaching reforms have been motivated by the need to improve both the quality and quantity of teachers. But some reforms, such as tougher certification requirements, could spur shortages. Similarly, depending on implementation, policies that encourage alternative certification routes create more teachers but risk watering down their quality.

- **States exhibited no clear shift from the first wave of more basic reforms to a second wave that aimed to change the focus of teaching and learning.** In practice, there was no clear shift beyond a few district-level experiments to a second-wave agenda, which could have focused on moving toward quality improvements designed at the school site to increase depth of content, deepen student understanding, and emphasize higher-order thinking. In short, state-level activity was not characterized by a set of successive organized waves and marked changes in direction. Instead, the reform movement appeared to be driven by a broad set of policy recommendations that reflected state needs at a particular time.

In sum, for states to attack the root of the problems raised by *A Nation at Risk* simultaneously from several fronts, their policies would need to send coherent signals to local educators and boards. Combinations of policy approaches, including those embodied in systemic standards-based reform, held particular promise. While there was discussion of a second wave of reforms to shift toward quality improvements designed at the school site—for instance, those to move toward more depth of content, deeper student understanding, and an emphasis on higher-order thinking—such reforms largely did not materialize until decades later.

The Evolution of Standards-Based Reforms

As the prior section described, the state role in local education reform grew dramatically after the passage of the Elementary and Secondary Education Act (ESEA) in 1965. The most explicit encouragement of states to lead a new more comprehensive, aligned, and coherent policy for education improvement was proposed by Marshall Smith and Jennifer O'Day in a seminal 1990 article that received widespread attention.[24] Smith and O'Day—picking up on a theme that had thus far been largely restricted to professional teaching associations such as the National Council of Teachers of Mathematics—argued that dramatic changes to support classroom instruction were necessary to move the needle on student outcomes, in response to the failure of reforms to influence instruction. Indeed, most of the lasting reforms of the past decades had not penetrated the classroom to a sufficient extent to improve instruction.

Smith and O'Day asserted that reforms (in 1990) "indicate only minor changes in the typical school, either in the nature of class practices or in achievement outcomes. For the most part, the processes and content of instruction in the public school classrooms are little different from what they were in 1980 or in 1970."[25] The authors also asserted that this lack of change was a logical extension of a failure to focus on teacher capacity-building:

> [The fact that previous reforms] did little to produce meaningful gains in learning may not be surprising since they did little to change the content of instruction, to directly involve teachers in the reform process, or to alter the reigning notions of teaching and learning.[26]

To address these gaps, Smith and O'Day began connecting numerous policies for systemic school reform. They started with a coherent state academic standards system for instructional guidance on what students need to know and be able to do through state curriculum frameworks. Such a system would be too large for districts to consistently implement well and would be best handled at the state level. The second step, they argued, should be structural and institutional support for those standards, which would be achieved by aligning the academic standards with state policies such as testing, teacher certification, professional development, and accountability. The third step would involve delegating to districts and schools the responsibility to develop student opportunities to learn the standards through specific instructional approaches, which would require substantial initial and ongoing professional development and support for teachers.[27]

Jane L. David agreed that further progress in instructional reform depends on a new strategy that connects teachers, students, and instructional materials, and she created a diagram of the moving parts required for whole-system policy change (see Figure 1).[28]

Further progress in instructional reform depends on a new strategy that connects teachers, students, and instructional materials.

Figure 1. The Puzzle of Educational Change

Source: Bay Area Research Group. Copyright 1990 by Jane L. David.

David's diagram is daunting in its complexity and helps to illustrate why it has taken years of effort to even begin to align the supports for standards-based reform, long after support for the concept itself took hold. As discussed throughout this work, it is very different to create strong standards and to create the systems and processes that support those standards making their way into instruction. Note how the final target for policy change—the classroom in the center—is surrounded by numerous entities and policy domains that must be aligned coherently through consistent signals sent to teachers. So David's diagram was powerful, and its message combined nicely with the changes Smith and O'Day were advocating for, but the proliferation of its concepts took time. States were relatively quick to adopt academic content standards beginning in the 1990s if they had not done so already, but it would take decades before some states began to attack most of David's moving parts in a coherent fashion.

Even though state academic content standards and some related policies spread rapidly from 1990 to 2000, numerous concerns and doubts arose about their design, content, and effectiveness. The initial concern was that state standards were too low and not challenging enough for students. Variation in state approaches was expected given the diversity of state contexts, but several states chose to only elevate their academic standards slightly higher than what they had previously. Some of the academic issues focused on lack of complex problem-solving and too much stress on rote and procedural learning. Debates arose over the appropriate emphasis on phonics in reading, while "math wars" broke out over eliminating elements of traditional math.[29]

Goals 2000: The Rise of the State Standards

As the 20th century drew to a close, so did the attempt to create national academic standards and assessment, with the state role supplanting the national role. In April 1991, President George H. W. Bush announced his America 2000 strategy, which would focus on reforming U.S. public education. As of 1989, according to the 21st annual Gallup Poll of the Public's Attitudes Toward the Public Schools, 77% of the public supported mandated national achievement testing and 69% supported the use of a standardized national curriculum.[30] President Bush tried to accomplish both goals but distinguished national from federal in implementation. For example, he supported the development of a voluntary national test to be delivered in each of five core academic areas in the 4th, 8th, and 12th grades. The test was to monitor whether the nation was progressing toward five national goals that President Bush and the governors had agreed on at a national summit meeting. The fourth goal declared that the United States would be first in the world in science and math achievement by the year 2000. A national curriculum would enable students to demonstrate the ability to reason, solve problems, apply knowledge, and write and communicate effectively. Clearly, years of criticism of American students' educational attainment and applied skills had penetrated deeply into the national public perception.

Under America 2000, the United States aimed to become closer—in both educational attainment and strategy to achieve that attainment—to many European and Asian countries, which had a much stronger national role in academic guidance and control than their American counterpart. There were proposals for national policies to extend to teacher training and instructional materials.

There was initially widespread bipartisan support for such a move. President Bill Clinton followed up on President Bush's thinking with his own Goals 2000 bill, which focused on curricular standards and tests. Among other provisions, this legislation proposed a National Education Standards and Improvement Council of 20 members that included 5 professional educators, 5 public representatives, 5 representatives from business and postsecondary education, and 5 education experts. The council would recommend certification of national content standards in subjects like history/social studies from among competing proposals. Final approval of voluntary national content standards would be made by a National Education Goals Panel appointed by the president. All of this depended on state and local adoption of national standards and tests. A major objective was to create nationwide, recognized student tests built around national standards.

The Goals 2000 legislative debate was the most high-profile initiative of the early Clinton administration but faded from the limelight as the administration and the Republican Congress pursued other issues. Ultimately, none of these ideas ever garnered enough congressional support to proceed. The parties split: Goals 2000 seemed to the Republicans to require too much national control to reach political consensus, while the Democrats were skeptical that the federal government would provide sufficient funds to meet the objectives of the bill.[31] President Clinton ultimately changed his education priorities during his second term to class-size reduction and school construction.

Though Goals 2000 was never passed into federal law, pieces of its legacy lived on in the work of the states. Elements of Goals 2000 aimed in the same direction as the intensive state reform activity that had recently occurred with respect to academic content standards. This was facilitated by the 1994 reauthorization of ESEA, otherwise known as the Improving America's Schools Act (IASA). Through IASA, the federal government required state standards but left the determination of content of standards to the states. IASA provided funding for states to develop and implement both standards and aligned assessments.

Finally, IASA also linked categorical programs such as Title I and bilingual education to standards developed under Goals 2000 and required schools to make state-defined annual progress toward meeting those standards. Ultimately, it is impossible to isolate the distinctive contribution of Goals 2000 legislation to the rapid spread of standards-based state and local policies, but it clearly played a substantial role.[32] Several states, such as Kentucky and Massachusetts, did not wait for federal policies and created systemic standards-based changes in the early 1990s as part of more equitable school funding reforms.

Three key reforms spread through the states from the 1990s to the early 2000s:

1. **Creating challenging academic standards for what all students should know and be able to do in each subject area.** By 2001, a large majority of states had created such standards in most academic subjects—a remarkable shift in the historic state role.

2. **Aligning state curricular standards to policies related to testing as well as, in some states, teacher certification, professional development, and/or accountability programs.** All states but Iowa had statewide student achievement tests by 2002, though many states' tests were not yet aligned with state academic content standards. Most states were also at least beginning to address other systemic components.

3. **Restructuring the education governance system**, ostensibly to delegate to schools and districts the responsibility for developing specific instructional approaches that meet the academic standards states hold them accountable for.

The standards portion of systemic standards-based reform was easier to create and could be achieved by mandate or inducement, but getting those standards to translate into aligned instruction and student outcomes was a capacity-building issue. Early proponents of standards-based reform knew it would be difficult to create a mix of top-down and bottom-up capacity-building strategies that would promote more equitable opportunities and outcomes through authentic standards-aligned instruction that involved the appropriate pedagogical and content shifts.

How Systemic Standards-Based Reforms Evolved in Nine States

In all, standards-based reform efforts proliferated quickly. A 1997 study I conducted with my colleagues at the Consortium for Policy Research in Education (CPRE) summarized how, against a backdrop of initial bipartisan support followed by policy disjunctures over the details, systemic standards-based reforms evolved in 9 states and 25 districts in those states.[33] The research is based on in-depth interviews with policymakers and educators in California, Connecticut, Florida, Georgia, Kentucky, Minnesota, New Jersey, South Carolina, and Texas. The focus of this research was to analyze the persistence and transformation of these new state instructional guidance strategies, along with the issues and challenges states and districts confronted.[34]

In the nine states studied, there was a disjuncture between change-oriented political rhetoric and steady, incremental progress in implementing the kinds of standards-based instructional guidance policies that had evolved over the previous 5–10 years. Policy rhetoric calling for greater free-market choices in education, smaller government, deregulation, and the removal of categorical programs prevailed at the state and federal levels. There was notable discussion and some action related to establishing or

expanding charter schools, enhancing public and private school choice, and reducing the size of state and local central office administration. But despite the strong antigovernment sentiment that sometimes challenged the idea of state standards, the standards remained important components of state policy.

The nine states for the most part stayed the course with their reforms. Indeed, at the conclusion of the CPRE study, all nine states continued to develop or revise their academic content standards, as did 20 of the 25 districts. To be sure, the pace of development was slow, with states in some cases taking more than 5 years to reach a consensus on the structure and content of the standards.

State leadership turnovers and financial problems also plagued some standard-setting efforts. For example, when New Jersey and Texas changed governors, standards initiatives begun under the previous governors were put on hold. But the delay proved temporary, and these states—like others in the sample—proceeded with the reforms.

Integration of State Assessment Programs. Many policymakers saw improving state assessment programs as integral to standards-based reform. They set such goals as:

- aligning their tests to new state or district standards,
- exchanging multiple-choice item formats with more authentic tasks, and
- replacing norm-referenced testing with criterion-referenced testing options that focused on what students could do against an objective standard rather than how they compared with their peers.

Again, several study states and districts made incremental progress on these fronts. Five states succeeded in aligning one or more components of their testing programs to their standards, and four states integrated performance-based assessments. Nine study districts experimented with performance assessments in the 1994–95 school year alone. Reducing norm-referenced testing was a heavier lift; while it was reduced in some sites, it was often not eliminated completely, and in one state it was brought back into the testing program.

Teacher Capacity-Building. Some progress was also made toward building the capacity of teachers to teach in ways that were more compatible with the standards. For example, three states were actively revising their entry-level teacher certification processes to synchronize them with more challenging instruction. Several states made notable efforts to align the professional development of experienced teachers with standards-based reforms. One strategy was to involve teachers in the development of new policies and programs. Another promising trend was the emergence of teacher subject-matter or grade-level networks supported not just by states but also by universities and national or federal entities.

Support for and Opposition to Standards-Based Reforms. What accounted for the steady, incremental progress of standards-based reforms? While each state is unique, many common cross-cutting themes emerged. At the state level, education and business communities continued to support the general policy strategy. For example, Texas business leaders, school administrators, and other education groups lobbied to keep the state test-based accountability system in place, even in a climate of strong legislative support for deregulation and decentralization. California teachers supported a successful attempt to authorize a new state assessment system, and Minnesota teachers supported the general idea of increased graduation standards.

The external stimulus and support provided by national associations were also crucial to the stability and continuation of systemic standards-based reform. Policy associations, such as the National Governors Association, facilitated the exchange of knowledge about reform strategies. States used federal and private foundation resources to support their own versions of standards-based change.

Opposition to standards-based reforms took national channels, funneled most prominently through small, well-organized Christian and conservative groups. These groups rallied in particular against outcome-based education, standards, and performance-based assessment, often perceiving them to be extensions of government influence and vehicles for liberal philosophies. While resistance to systemic standards-based reform had some success, it varied considerably across states and most often resulted in modifying the content of standards-based reform, not dismantling it.

Balancing New and Old Approaches. Perhaps the most critical element facilitating the continuation of standards-based reform was the effort by policymakers to establish a balance between often-competing policies of reform. Reforms received the strongest criticisms when they focused on new goals to the seeming exclusion of basic skills or traditional teaching methods. Particularly early on, some states' standards policies de-emphasized—or even totally rejected—familiar teaching methods like phonics, emphasis on basic skills, and conventional testing practices. However, many teachers continued direct instruction and traditional pedagogy because of their anxiety about low student test scores.

Critics charged that the new objectives were difficult, if not impossible, to measure and that they inappropriately intruded into the personal lives and values of students and their families. States and districts responded by citing the importance of balance. For example, in one Georgia district that received strong challenges to outcome-based education initiatives, an administrator said: "We realized that we had created the perception that we had abandoned the basics for untried educational experiments. A major theme emerged that had to do with balance: performance assessment and traditional assessment; cooperative learning and independent learning."[35]

To some reform advocates at the state and district levels, compromises in standards and assessments were seen as undermining the most innovative approaches to teaching and learning, and as a slip back to old, ineffective ways. To others, these changes represented positive outcomes because from the outset, standards-based reform was intended to be an interactive dialogue among state policymakers, representatives from the education profession, and the public about the content of what students should know and be able to do.

Local Response to State Standards-Based Reforms. As previously noted, most of the districts in the CPRE study were actively pursuing their own standards-based curricular and instructional changes. While state policies often influenced local efforts in this direction, many districts led or substantially elaborated on state initiatives. The extent to which districts embraced the philosophy of state frameworks varied because of local administrators' and teachers' own interpretations, local political environments, and other factors. Such differences demonstrate once again that the extension of governmental authority at one level is not necessarily zero-sum.[36] Rather than stunting local initiatives and decision-making, districts' experiences showed that state action could stimulate—but did not uniformly determine—the districts' and schools' own curricular and instructional activities.

The impact of state standards initiatives on local policies was often more subtle and indirect than what critics had forecasted. Contrary to concerns that standards-based reforms would overextend state and federal authority, these policies fit well in practice within the decentralized American tradition. For instance, local staff in nearly all the study sites typically regarded the state's standards as one of many resources they used to generate their own, more detailed curricular guidance policies and programs. They reported turning to multiple sources to develop this personalized curricular guidance, including national standards groups, other districts, and their own communities.

Contrary to concerns that standards-based reforms would overextend state and federal authority, these policies fit well in practice within the decentralized American tradition.

Ironically, and again contrary to most conservative critics' concerns, most educators wanted more, not less, external guidance and support for instruction than they received from the state or other groups. The most frequent complaint about state standards centered on their broad, general nature and the implicit or explicit assumption that district and school staff would have the capacity, resources, time, and expertise to flesh them out in a local curriculum.

Building Capacity for Reform. With more challenging academic standards for students and the devolution of decision-making to schools under site-based management initiatives, teachers and administrators were being asked not only to teach more challenging curriculum to all students, and to teach in different ways, but also to establish new relationships with each other and with parents. These new roles required new skills and knowledge from many teachers and administrators.

But despite these efforts, training activities too often remained loosely linked to larger reform initiatives. When policymakers asked districts to identify needs and then align their professional development plans to these needs, some viewed this request as a meaningless and unproductive paper exercise. In most cases, the study states were neither highly directive nor specific about professional development activities. In part, this ambiguity may be attributed to states' generally low-level support for professional development activities.[37] Furthermore, flexible support for professional development is often a prime target during cutting times, even if the rationale for providing that flexibility was well-intended.

Complicating the district and school administrators' roles was the decentralization occurring via site-based management and decision-making. One key lesson is that it was not desirable for either teachers or site administrators to completely reinvent curricula or assessments school by school. This understanding may lead to rethinking the question of the districts' role in reform—that is, what can districts do to facilitate exchanges, provide support, and fight the insularity that often plagues schools and teachers?[38]

Student Opportunity to Learn and the Role of the Teacher

In response to the standards-based reform movement, states created performance standards in tests for high school graduation (called minimum competency tests), and these tests would trigger state intervention in local schools or districts if the test score benchmarks were not met. However, one crucial type of standards—opportunity to learn (OTL)–based standards—were never fully conceptualized or developed. This gap remains. The crux of OTL standards is that students will not be successful in their studies if they are not well-taught what is essential to learn and know.

There are several potential approaches to devising OTL indicators that work for different kinds of students. They include:

- reviewing the degree and depth of coverage of academic material, called the implemented curriculum;
- assessing how classroom work is organized and the attributes and preparation of teachers; and
- evaluating the quantity and quality of instructional resources such as curricular materials (e.g., high-quality books), technology (e.g., computers), facilities (e.g., labs), and use of instructional time.

OTL indicators can be generated at the state, district, school, and classroom levels to assess what content students are taught and through which teaching methods.[39] Some argue that classroom OTL evaluations such as teacher surveys, classroom observation, analysis of curricula covered, and teacher logs are essential to determine what students actually experience at the delivery point of education.[40] These OTL indicators are expensive to implement on a massive scale. English learner OTL has unique challenges given the need to use special materials. It is less expensive to track student course-taking and stratification within schools.

The concept of OTL has engendered school finance lawsuits, centered on a lack of adequate and equitable state funding to provide OTL for all students. These cases, such as *Williams v. California*,[41] use the desired end results from academic and performance standards and then reason backward to fund the OTL needed to attain these state academic standards. So far, these adequacy lawsuits have not been successful in enough states to stimulate sufficient attention or visibility to the vital importance of OTL.

Another fundamental debate has focused on the changes in teaching needed to implement curriculum standards and the associated professional and organizational change expectations at school sites. These concerns focused on elements that contribute to effective classroom teaching and learning, such as:

- teachers' conceptions of content knowledge;
- teachers' beliefs about learning and learners' capabilities;
- teachers' mastery of content, such as scientific or mathematical content knowledge, grasp of pedagogical content knowledge, and beliefs about good pedagogical practice;
- teachers' repertoires of subject-related practices and strategies for coping with classroom contingencies; and
- teachers' decisions about what content to teach, how to engage learners in the learning process, and how to assess what learners have learned.[42]

Because all state efforts to improve student learning rely on teachers, these elements are crucial for classroom learning impact. Early in the 1990s, limitations and gaps in teachers' skills and knowledge became evident through uneven and at times nonexistent standards-based instruction. Many teachers did not know what to do with new state-developed or approved teaching materials, nor were they sure how to handle state curriculum frameworks. It was difficult for states to sufficiently influence either university-based teacher education or locally designed professional development to align with state standards.[43]

State standards illuminated a need for building teacher buy-in and capacity for a new conception of teaching. There was a stubborn hold of traditional teaching practices, such as those where the teacher stands in the front and lectures at whole classes.[44] In other words, new state standards still needed support from a powerful constituency: teachers.

Standards reforms supported by the National Science Foundation, subject matter associations, and foundations created state and local assistance networks and champions at some district central offices. But these networks were not widespread across whole states. Even where there was a high local capacity to implement standards, real classroom change became evident only after a number of years.[45] A dilemma was raised: Where does local capacity come from, and how can it be created? How do states deepen local learning and standard operating routines about how to implement complex state curriculum standards?

It became clear that the traditional professional development approach, which focused on individual teacher learning through a course or workshop, was insufficient. Teacher collaboration within schools began to emerge, but states and districts did not promote teacher collaboration widely enough to fully grasp and internalize standards-based reforms. Existing school structures, often reinforced in union contracts, can make it difficult to implement teacher collaboration and intensive professional development. States needed to invest more in building and maintaining long-term teacher support systems at the local level.

Ultimately, a major conclusion of the 1990s was that teachers must internalize the state instructional standards as their own operative standards for which they hold themselves accountable. This outcome cannot be enforced from the top down.[46]

Teachers must internalize the state instructional standards as their own operative standards for which they hold themselves accountable.

No Child Left Behind

An Initially Promising Approach to Standards

When George W. Bush was elected president in 2000, he had a different approach to education than his father. Based on his experience as the governor of Texas, President George W. Bush built on President Clinton's standards-based reform ideas but added more federal requirements, along with sanctions for schools that did not reach test score targets.

In 1994, President Clinton had persuaded a divided Congress to pass IASA, which required states to develop content and performance standards for the same academic subjects as had been enumerated in Goals 2000. IASA provided money for states to implement standards development and aligned assessments. While the standards were less debated, the role of assessments was hotly contested, and by 2001 only 17 states had developed both academic content standards and statewide tests aligned to the standards. This lack of state action was noted by George W. Bush when he was in statewide office, and after his election to the presidency in 2000, he set about reformulating the Clinton approach into his own education agenda.[47]

President George W. Bush's 2001 ESEA reauthorization legislation, the No Child Left Behind (NCLB) Act, contained over 1,000 pages of state-policy-fueled objectives and was passed by large majorities from both parties. Some of the bipartisan enthusiasm was directed toward promised increases in funding. Others thought NCLB's accountability provisions might achieve greater equity by tracking school-level progress toward state-defined academic attainment goals, which included looking at student scores on state tests in the aggregate and broken down by historically disadvantaged subgroups. These disaggregated data revealed and traced over time the extent of achievement gaps between students from higher- and lower-income families and between different race/ethnicity subgroups.

The achievement gaps at a given school became a ubiquitous criterion for judging school success, since a school could not make adequate yearly progress (AYP) toward state goals unless all subgroups of students achieved sufficient scores. This idea was hailed as promising in concept from an equity perspective, but it, along with other NCLB structures, ultimately caused huge state-level differences in terms of the rigor of standards.

NCLB specified that 100% of children must become proficient in English language arts and math by 2014. In response, some states devised low overall standards, making it easier for students to pass state assessments so the state could avoid federally mandated policies and sanctions for low-performing schools and districts. Other states established more rigorous standards but sought to game the timeline for NCLB implementation, structuring their AYP provisions such that only minuscule year-to-year progress was required in the first few years, with much larger gains needed toward the end of the time frame. These states were banking on NCLB being reauthorized before their schools and districts would feel the full brunt of any possible sanctions.

Specifically, NCLB required state tests for all students based on state academic standards in reading and math in grades 3–8 and one grade of the state's choice in high school. Other provisions of NCLB included a requirement that all teachers to be "highly qualified," possessing at least a bachelor's degree and, if a new teacher, having passed a rigorous state assessment of content and pedagogical knowledge.[48]

Numerous trip wires were designed for measuring the failure of districts and schools to make AYP based on a state-defined level of "proficiency." If student proficiency was not attained in a school, including in subgroups affected by achievement gaps, states and districts were mandated to provide a range of "corrective action" measures based on how many years in a row the school failed to make AYP (see Table 1). Corrective action measures became increasingly onerous, up to and including restructuring schools or undergoing state takeover. Critics said this design caused undue shame, sanctions, and punishment for local educators.

Table 1. School-Level No Child Left Behind Sanctions by Year

Consecutive years missing adequate yearly progress	Corrective action measures
1 year	• Placed on "watch list." • Required to develop school improvement plan.
2 years	• Listed as "school in need of improvement." • District required to provide any student attending the school the option of attending another district school that has met AYP, with the district paying transportation costs.
3 years	• Listed as "school in need of improvement." • District required to provide any student attending the school the option of attending another district school that has met AYP, with the district paying transportation costs. • District required to offer "supplemental education services" (e.g., tutoring) to any student who qualifies for free or reduced-price meals. One option for supplemental services must be from an outside provider (in practice, often a private company).
4 years	• Listed as "school in need of improvement." • District required to provide any student attending the school the option of attending another district school that has met AYP, with the district paying transportation costs. • District required to offer "supplemental education services" (e.g., tutoring) to any student who qualifies for free or reduced-price meals. One option for supplemental services must be from an outside provider (in practice, often a private company). • School must either change its staffing or make a "fundamental change" such as restructuring.
5 years	• Listed as "school in need of improvement." • District required to provide any student attending the school the option of attending another district school that has met AYP, with the district paying transportation costs. • District required to offer "supplemental education services" (e.g., tutoring) to any student who qualifies for free or reduced-price meals. One option for supplemental services must be from an outside provider (in practice, often a private company). • School must convert into a charter school, turn management over to a private management company, or be taken over by the state.

Source: Cross, C. (2014). *Political education: Setting the course for state and federal policy*. Teachers College Press. (p. 149).

No Child Left Behind Falls Short

By 2007, a majority of states had some of their schools attaining adequate yearly progress, but in the next 8 years, cascading AYP criteria created a large number of schools in most states that required corrective action. As NCLB approached the 2014 target for 100% across-the-board reading and math proficiency, even states that had decreased their academic standards or established a very low bar on their tests to avoid missing AYP could not be shielded from corrective action and sanctions. NCLB provided very little new money, but it gradually dominated the attention of state education agencies and state boards of education to create new compliance policies and local enforcement.

Further, other aspects of the law were not as effective as desired. The out-of-school tutoring programs (or "supplemental education services" mandated as corrective action) were not typically integrated with in-school instruction. Local district resistance to paying private tutoring firms escalated quickly. The parental choice elements associated with NCLB corrective action created many controversies but had very little impact on students. District communications to parents about NCLB choice were late, confusing, and ineffective.[49]

Schools not reaching AYP were supposed to get help from states to "restructure." But as the 1990s made clear, restructuring has many meanings, and in this case largely entailed mild measures like providing teachers with coaches or sending "turnaround consultants" to districts and schools. More drastic remedies like closing schools or creating charter schools were rare. As the number of "failing schools" grew exponentially under the NCLB test criteria, state technical assistance resources were overwhelmed. Some states, like Florida and California, used one set of criteria for state accountability and intervention and another specified by NCLB for federal accountability. In short, the federal government did not have sufficient authority or mandate to override the states' decisions in the federal system, so implementation power for NCLB fell far short of its ambitious goals. A widespread and potent political coalition mobilized to oppose NCLB across states and localities, and it became clear by 2010 that NCLB would not become a reform strategy that lasted. Its classroom impact was not easily monitored, and overall it had an insufficient political constituency to maintain it.

As Hess and Finn noted in 2007:

> Educational accountability à la NCLB is more a form of moral advocacy than a sensibly designed set of institutional improvement mechanisms and incentives. … Effective behavior-changing regimes are rooted in realistic expectations. … It appears that the compliance mentality that long infused ESEA has made the leap to NCLB, and that most districts rely more on obedience to the law's procedural requirements. … Across the land, evaluation and quality control have received scant attention, and parental outreach has been half-hearted. … In the long run, NCLB's greatest accomplishment may be the school performance data it furnishes to parents, educators, and state and local officials.[50]

Ultimately, after celebrating the bipartisan passage of NCLB, U.S. policymakers soon found out that the federal government is limited in its ability to engineer substantial change in state and local systemic reform. Ever since ESEA in 1965, federal authorities have relied on states as their agents to galvanize local education reform. Federal regulations and guidelines have much influence but are not sufficient to create high-fidelity implementation in a vast country with roughly 14,000 local education agencies.

Because the U.S. Department of Education lacks sufficient implementation capacity, it relies on the states to translate federal policies and oversee local follow-through. NCLB created some significant education changes at the local level, largely through enhanced information about pupil attainment broken down by subgroups for the public and parents. However, its inherent flaws and lack of reauthorization and revision for 15 years inhibited its local impact.[51]

Barriers to Teacher Capacity-Building in an Era of Standards and Accountability

Numerous researchers and educators reviewed the problems, progress, and strategies of standards-based reform as NCLB unfolded from 2001 to 2015. One disturbing trend was the tendency for schools to respond to lack of progress by making marginal adjustments to organizational structure—adding remedial classes, lengthening class sessions, adding teacher aides—while leaving teachers' knowledge and skills untouched. There seemed to be an assumption that teachers could improve schools if they just worked harder using their existing skill set. There was little guidance on capacity-building and professional development for instructional personnel.

A 2002 review of the literature on effective adult learning and professional development by Richard Elmore found a strong consensus on the elements of professional development that would lead to high-quality instructional practice,[52] and a 2017 meta-analysis on effective professional development practices echoed Elmore's findings.[53] However, these concepts—which require a heavy lift at the school level, with associated support from the districts and states—have yet to thoroughly proliferate into the classroom.

High-Quality Professional Development: The Consensus

A body of research shows that high-quality professional development includes the following elements:

- Focuses on a well-articulated mission or purpose anchored in student learning of core disciplines and skills
- Derives from analysis of student learning of specific content in a specific setting
- Focuses on specific issues of curriculum and pedagogy
- Derives from research and exemplary practice
- Connects with specific issues of instruction and student learning of academic disciplines and skills in the context of actual classrooms
- Embodies a clearly articulated theory or model of adult learning
- Develops, reinforces, and sustains group work
- Focuses on collaborative practice within schools
- Builds networks across schools

- Involves active participation of school leaders and staff
- Sustains focus over time—continuous improvement
- Contains models of effective practice
- Takes place in schools and classrooms
- Models practices that are consistent with message
- Uses assessment and evaluation
- Includes active monitoring of student learning
- Provides feedback on teacher learning and practice

Source: Elmore, R. F. (2002). *Bridging the gap between standards and achievement: The imperative for professional development in education*. Albert Shanker Institute. (p. 7).

As Elmore articulated:

> Most state accountability structures are either blind or relatively ineffectual in regard to the question of [teaching] capacity. … The statewide scope of the capacity problem far exceeds states' commitment of resources to these efforts. Some states also have created networks to provide technical assistance and professional development to teachers and administrators around curriculum content, standards, and performance measurements. However, most states' efforts are uninformed by any particularly powerful models of large-scale improvement. The networks are largely disconnected from the daily, detailed work of schools and so, in some ways, may reinforce the isolation that exists within schools. Lack of capacity is the Achilles heel of accountability. Without substantial investment in capacity-building, all that performance-based accountability standards will demonstrate is that some schools are better prepared than others to respond to accountability and performance-based incentives, namely the ones that had the highest capacity to begin with. This is not exactly what the advocates of performance-based accountability had in mind.[54]

Accountability systems can create conditions for schools to work on urgent problems and to focus their work on issues like achievement gaps. Incentives can galvanize more successful interactions of students and teachers concerning content. But most state incentives do not target the classroom or the needed school-based organizational redesign that is required to support teachers after professional development.

The status quo persists with its age-graded structure, transmission-style teaching, and egg-crate building design for individual classrooms that discourages teacher collaboration.[55] School district master schedules do not encourage larger blocks of instructional time. School district budgets are incremental formulas that often do not refocus categorical and special purpose funding to build capacity around the interaction of students, teachers, and upgraded instructional materials.[56] Teachers are not given time to build their capacity under the typical local budget policy that views any time away from classroom instruction with pupils as time not spent working.

In addition to the role of policymakers, principals can help overcome capacity-building issues that teachers encounter on the job. A recent synthesis of research concerning principals demonstrates that effective principals have a significant impact on positive student outcomes such as achievement and chronic absence. Principals can galvanize higher teacher morale and reduce turnover. Effective principals build teacher skills, development, and trust. They accomplish these aims by improving teachers' management skills, instructional strategies, coaching, feedback, teamwork, and use of data. Staff collaboration at the school site is a powerful strategy to enhance instruction, as opposed to relying mostly on top-down command and control.[57] Principals can facilitate collaboration and team-building. They can also enhance strategic resource allocation.[58] And principals' capacities can also be increased by policymakers' investments in their preparation to do these things, as a number of states have done.[59]

Revised Approaches to State Systemic Reform

A few years into implementing NCLB, policymakers began to understand that accountability would work best when teachers' and districts' internal visions and commitments to an accountability strategy matched the external state and federal accountability strategy and vision. State and federal improvement efforts will falter without this coherent inside/outside approach, and they will degenerate into a local compliance mentality. For example, schools might use their strategic plans and goals to buffer external state policy from impacting their standard operating routines[60] or add a peripheral unit to symbolically comply with state initiatives. A local district might, for instance, set up social and emotional learning as a separate structure from curriculum and instruction, satisfying external demands but limiting the effectiveness of both areas of instruction. Instead, state policies must recognize the variations in local context. State support and assistance must rely on a mixture of government and private networks of assistance providers. And finally, states must be open to adjusting their initial designs as part of a continuous improvement process.

A New Generation of Standards: Common Core and Beyond

The concept of a "common core" curriculum respected federalism and state leadership as prime objectives, but at the same time aimed to overcome the fragmented system of educational governance. The process to create the Common Core State Standards (CCSS) was led by the National Governors Association and the Council of Chief State School Officers. It involved widespread and genuine participation of many groups, including teachers, although opportunities for public comment were limited. Ultimately, the standards were informed by many types of research and evidence as well as input provided by a distinguished panel of subject matter experts. The CCSS are designed to transform instruction by focusing teacher and student attention on fewer, higher, and deeper standards.[61] It is also worth noting that the CCSS have literacy standards that are intended to inform instruction in social studies/history and science, technology, engineering, and math (STEM), as well as English language arts.

The Next Generation Science Standards (NGSS) followed quickly on the heels of the CCSS, relying on the same enthusiasm for common standards that had led to the development of the CCSS. In 2011, an 18-member expert panel convened by the National Research Council led the development of *A Framework for K–12 Science Education*, which formed the scientific basis for the NGSS.[62] Achieve, Inc., which also played a role in developing the Common Core English language arts and math standards, then managed the process of converting the National Research Council framework into K–12 science standards.[63]

According to the National Science Teaching Association, 19 states and Washington, DC, adopted the NGSS as written and an additional 30 states adopted standards based on the framework;[64] however, as with CCSS, rollout of the NGSS has been slow due to the need to develop aligned instructional materials, train teachers to teach to the new standards, and adjust assessments.

State history and civics standards have not been developed into national standards analogous to the CCSS or the NGSS. However, experts have evaluated state-by-state standards and have identified several states that have standards with similar qualities to what the CCSS and NGSS aim to achieve. Specifically, the Thomas B. Fordham Institute rated states' U.S. history and civics standards in 2021 and identified five—Alabama, California, Massachusetts, Tennessee, and Washington, DC—as "exemplary" in both subjects. New York's U.S. history standards were also rated as exemplary, and another 10 states' standards were rated as "good" in both subjects.[65]

The Most Recent State Content Standards: Key Instructional Shifts

The Common Core State Standards

The deeper learning envisioned by Common Core State Standards has several elements, including:

- an understanding of the meaning of ideas and their relevance to concrete problems;
- an ability to apply core concepts and modes of inquiry to complex real-world tasks;
- a capacity to transfer knowledge and skills to new situations, to build on and use them; and
- the abilities to communicate ideas and to collaborate in problem-solving.

More specifically, the Common Core English language arts standards encompass:

- reading increasingly complex texts closely,
- communicating effectively in multiple media and across content areas,
- using evidence and interpreting with justification,
- engaging in inquiry and research, and
- applying literacy across content areas.

The Common Core math standards encompass:

- engaging in math practices that use math reasoning in application;
- using math skills across content areas and contexts;
- being able to understand, describe, explain, justify, prove, derive, assess, illustrate, and analyze; and
- being able to model, construct, compare, investigate, build, interpret, estimate, summarize, represent, evaluate, extend, and apply learning to a wide range of real-world problems, including uses in science, engineering, and technology problems.

The Next Generation Science Standards

The primary deeper learning aims of the Next Generation Science Standards (NGSS) include:

- less memorizing, more sense making;
- making connections to Common Core;
- grounding practice in research; and
- applying knowledge in context.

The NGSS include the following fundamental dimensions:

- disciplinary core ideas within the four domains of physical science, life science, Earth and space science, and engineering design;
- cross-cutting concepts across the four domains; and
- science and engineering practices, which describe how scientists and engineers work.

Exemplary State History and Civics Standards

Per a 2021 report by the Thomas B. Fordham Institute, states with exemplary history and civics standards meet several criteria, including that they:

- effectively articulate what every American should know about this country's democratic institutions, traditions, and history;
- emphasize skills that are essential to informed citizenship such as critical thinking, problem analysis, and evaluating, interpreting, and arguing from evidence;
- champion essential civic dispositions such as respect for other persons and opinions, an inclination to serve, and a commitment to American institutions and ideals; and
- make effective use of elementary and middle school and require at least one year of U.S. history and one semester of civics in high school.

Sources: Kirst, M. W. (2013). *The Common Core meets state policy: This changes almost everything* [Policy memorandum]. Policy Analysis for California Education; National Science Teaching Association. *About the Next Generation Science Standards*; Next Generation Science Standards. *The three dimensions of science learning*; Stern, J. A., Brody, A. E., Gregory, J. A., Griffith, S., & Pulvers, J. (2021). *The state of state standards for civics and U.S. history in 2021*. Thomas B. Fordham Institute.

The core academic content standards of the 2010s are a major milestone in the long evolution of state standards that began in the 1990s. They exemplify continuous improvement and persistence despite many bumps along the road. Common Core, for example, inspired the College Board to overhaul the SAT for college admission. President Barack Obama's endorsement of Common Core, however, generated fierce opposition from conservatives concerned about an overreach of federal control over local curriculum. This well-organized opposition was reinforced with teacher opposition to test-based accountability. Almost all states dropped the title "Common Core" and revised their standards somewhat. While these changes were mostly marginal and incremental, the consequence was that standards implementation declined and state standards were altered.

Implementing the New State Content Standards: A Deep Dive in California

Since the latter half of the Obama administration, many states have moved dramatically away from the No Child Left Behind–era "test and punish" philosophy that attempted to reform public education by sanctioning districts, schools, and educators. Instead, states moved to a strategy that seeks to assess and improve student outcomes through data analysis and local capacity-building. The new approach also focuses on developing 21st-century skills of critical thinking and problem-solving, establishing more positive social and emotional supports for students, and reducing exclusionary discipline practices. These areas of focus are aligned with some of the building blocks necessary for fully realizing standards-based reform but require thoughtful alignment and more thorough interpretation.

In terms of policy alignment, there has been some promising progress in recent years, with numerous states moving toward a more systematic approach that aligned state initiatives into a more coherent design. When I became President of the California State Board of Education in 1975 for the first of two stints in this role (1975–1982 and 2011–2019), three different offices created state curriculum frameworks, instructional materials, and assessments, without much coordination or integration. By the conclusion of my second stint in 2019, states like California and Massachusetts had, on paper, aligned almost all K–12 policies—including those that govern finance, English learners, special education, career/technical education, teacher preparation, accountability, postsecondary preparation, and more. This alignment is a necessary, though not sufficient, step toward standards-aligned instruction that provides authentic assessments of thoughtful curricula.

Another key component of state K–12 reform efforts in the 21st century has focused on replacing dozens of state categorical (or single purpose) programs, which had been added incrementally over the prior decades. Over time, this proliferation of categorical programs created an extraordinarily complicated and bureaucratic delivery system—one which impeded districts from making changes they felt were most needed.[66] Recent state and federal reforms have emphasized moving away from a "culture of compliance" to more local control. But more local control will not automatically lead to improved classroom instruction.

In their experience with Common Core State Standards (CCSS) adoption, as well as the adoption of other high-quality content standards such as the Next Generation Science Standards (NGSS) and state history/civics standards, states and their many stakeholders have realized that adopting curriculum standards is just the start of a process for aligning many essential policies into a coherent pattern.

California provides one example of how this process and its policy outcomes have played out in a given state. California has adhered more tightly than most of its counterparts to the Common Core content and branding. For example, the state has never changed the name of its state content standards from Common Core, and it continues to use the Smarter Balanced assessments, developed in 2010 to measure performance on Common Core standards.

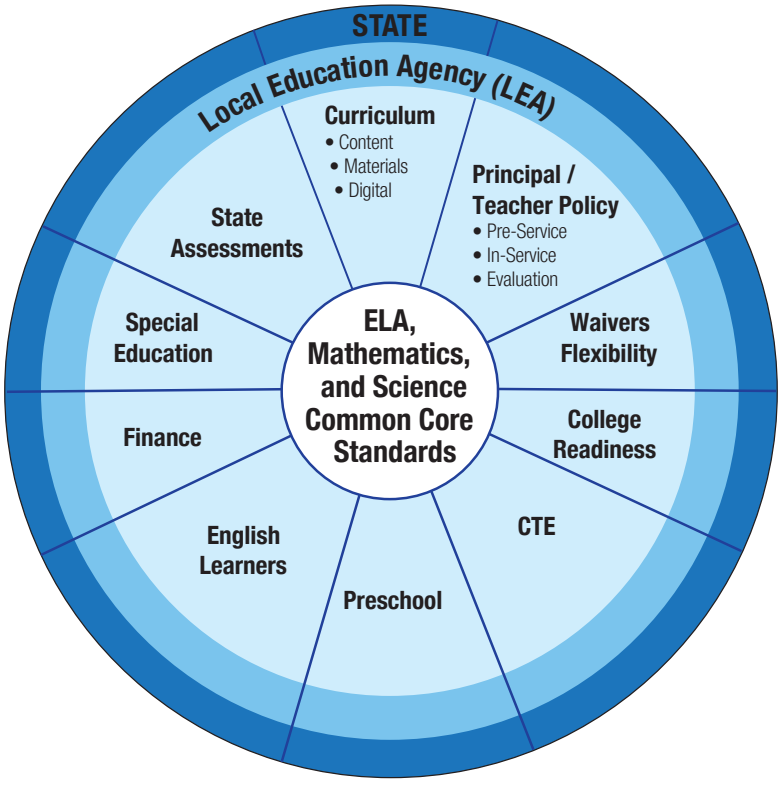
Interested parties up and down the loosely coupled education delivery chain from the statehouse to the classroom have become more and more aware of how much work remains to be done. After all, the attempted state K–12 policy alignments did not provide sufficient human capacity-building for local educators, adequate student opportunities to learn complex standards, solutions to disjunctures between

K–12 and postsecondary education, or enhancements to academic transitions into kindergarten from preschool. I turn next to a close examination of state standards adoption and implementation in California during my second stint as President of the State Board of Education.

Alignment of California Instructional Policies to the New Standards

In August 2010, California's State Board of Education adopted the Common Core State Standards. The standards provided a "consistent, clear understanding of what students are expected to learn from kindergarten through grade 12 in the areas of math and English language arts" (including literacy standards for history/social studies, science, and technical subjects).[67] The CCSS were "designed to be robust and relevant to the real world, reflecting the knowledge and skills needed for high school graduates to succeed in entry-level, credit-bearing academic college courses, workforce training programs, and the workforce itself."[68] In addition, California subsequently adopted the NGSS; adopted history/civics standards externally rated as exemplary; and updated, revised, and aligned its English language development standards for English language learners after consulting with experts in English language instruction, curriculum, and assessment.[69] After receiving widespread public support, the new English language development standards were adopted by the State Board of Education in 2012. The state academic content standards became the central guidance structure with which all other new state policies would be coherently aligned (see Figure 2).

Figure 2. California State Policy Alignment Strategy



Note: CTE = career and technical education; ELA = English language arts.

Source: Kirst, M. W. (2013). *The Common Core meets state policy: This changes almost everything* [Policy memorandum]. Policy Analysis for California Education.

The following sections discuss each component of the systemic standards-based reform that occurred in California and highlight what remains to be done.

Curriculum Frameworks

As I explained in a 2013 Policy Analysis for California Education (PACE) memo:

> While standards designate what students should learn at specific grade levels, curriculum frameworks provide guidelines and research-based approaches to curriculum and instruction. Frameworks also include guidance and criteria for publishers who are developing instructional materials for kindergarten through grade 8 that are aligned to the standards.
>
> A statewide Instructional Quality Commission (IQC), established by legislation in 2011, was charged with recommending curriculum frameworks and instructional materials to the State Board of Education. The IQC, headed by former State Superintendent Bill Honig, made recommendations to the State Board of Education on the alignment of academic standards, curriculum frameworks, instructional materials, professional development programs, pupil assessments, and academic accountability systems.[70]

The State Board adopted the IQC's Common Core recommendations in 2012 and subsequently adopted curriculum frameworks associated with the NGSS. The State Board of Education followed up by adopting the English Language Arts/English Language Development Framework in July 2014, as well as an accompanying list of programs in November 2015.

Instructional Materials

The State Board of Education approved a list of core and supplemental materials that are aligned to the CCSS and NGSS and may be considered by districts for purchase to support the local implementation of new content standards. Local districts were then charged with determining curricular priorities, adopting supplemental and core materials for kindergarten through grade 8, and adopting high school materials according to their local needs for supporting student success. Even with state assistance in identifying instructional materials, this process was a significant lift for districts. State activities focused on endorsing specific instructional materials rather than on adopting textbooks on a 7-year cycle.

The initial 2012 Common Core instructional materials did not change enough from prior iterations before the standards were released. Eventual progress was made on creating new math pathways such as statistics, quantitative reasoning, and data analysis, sometimes in curricular partnerships with postsecondary education.[71] One important step was the state's 2014 response to the field's demand for new math instructional materials aligned to the Common Core,[72] since the last adoption for math materials took place in 2007. The new math framework was revised and adopted in 2023.

As I wrote in 2020:

> Events that take California two years to complete in a typical instructional materials adoption were compressed into approximately one calendar year, to help bridge the gap between outdated materials in the field and supplemental materials aligned to Common Core available to districts for school year 2014-15.[73]

Teachers have been reporting for years that they are still seeking improved standards-aligned instructional materials, though survey data suggest there has been progress over time. As I described in 2020:

> In recent years, given varying adoption timelines, California teachers have commonly had to rely on peer-developed materials, often procured online. More recent interviews with district leaders across the state have suggested that districts are now shifting toward more centralized procurement or development of materials and moving away from teacher-created materials. And from 2016 to 2018, higher proportions of California teachers reported (on separate WestEd survey questions) that curriculum, instruction, and learning materials are well-coordinated across the different grade levels at their school, and that there is consistency in curriculum, instruction, and learning materials among teachers in the same grade level at their school.[74]

High-quality standards-aligned materials are still especially needed for subgroups like English learners, who comprise approximately one fifth of the state's students, according to a 2022 brief by Education Trust-West.[75]

Assessment Programs

In June 2011, California joined the Smarter Balanced Assessment Consortium (SBAC) as a governing state–giving California an active role in developing the assessments. SBAC provided assessments for grades 3-8 and 11 that were scheduled for full implementation beginning in the 2014–15 school year. Smarter Balanced was arguably the best product in the assessment market. The assessment is computer adaptive, contains extended-response prompts where students must expand or defend their answers, and includes a 90-minute performance component that requires students to analyze a complex issue using several sources to formulate their own answer. SBAC has a digital library for teachers and an extensive system of interim assessments organized by instructional blocks of content. There are four possible scoring levels on an SBAC assessment; Level 3 is the threshold used by California community colleges and the California State University system to place high school graduates in credit-bearing first-year courses.

Moving forward, California could benefit from spending more than the current level of $10 per pupil on formative assessments for classroom instruction to better enable teachers to authentically implement the state standards. Local districts still need to develop the teaching capacity to fully prepare students for Smarter Balanced state assessments. Teacher capacity-building—a theme that arises throughout this paper—should be ongoing, given high rates of teacher turnover as well as the ongoing imperative to help experienced teachers continually improve their craft.

Teacher Licensing and Accreditation Standards

The California Commission on Teacher Credentialing took several steps to revise teacher and school leader preparation program expectations so new teachers and principals would be better equipped to address the new state standards and aligned curriculum frameworks. These steps were part of a broader overhaul of professional licensure and accreditation standards to make them more rigorous, again so teachers were equipped to teach and principals were equipped to lead in the context of the new standards.[76]

School Finance Overhaul

In 2012, the California school finance formulas consisted of an accretion of various laws and amendments, including 56 separate categorical programs. These formulas did not adjust adequately for locally contextualized pupil needs. Spending restrictions for the majority of these categorical programs were relaxed as of 2009 due to the downstream effects of budget shortfalls, but they were scheduled to return to their original structure in 2013–14 and then in 2015–16 after an extension of the relaxed spending restrictions.[77]

Local education agencies (LEAs) found significant relief in the temporary categorical flexibility imposed in 2009, and the prevailing sentiment was that LEAs did not want to return to the old system. In response, Governor Jerry Brown proposed a large-scale policy deregulation in the form of a funding formula that changed the way state funds are distributed. The formula decategorized categorical funds and provided additional support in the base formula for students from low-income households and for English learners. The new Local Control Funding Formula (LCFF) is "designed to send additional funds to districts where the need and challenge is greatest."[78] Districts received a large increase in state funds with a 4-year phase-in of added funds.

The Local Control and Accountability Plan as Lever for Engagement and Reform

The Local Control Funding Formula

California's Local Control Funding Formula provides three tiers of funding:

1. A base amount per student (which varies by grade level)
2. Additional supplemental funding for students in three subgroups: English learners, students from low-income families, and foster youth
3. Additional concentration funding for districts with greater than 55% of students who are in the three subgroups

Districts must use supplemental and concentration funds to improve services specifically for the identified subgroups.

The Local Control and Accountability Plan

Few states have attempted to integrate instructional improvement with the annual budget process without specifying how locals should spend the money through state earmarked categories. To ensure that all funds are spent appropriately and in alignment with state regulations and district goals, each local education agency (LEA) in California is required to work with local stakeholders to develop a Local Control and Accountability Plan (LCAP). This 3-year strategic and fiscal plan follows a State Board of Education–approved template.

The LCAP is intended to explain how the district will use state funds to improve educational outcomes for all students, with special attention to high-needs students for whom the district received additional money. Among other requirements, the LCAP details the LEA's:

- goals for all pupils and for subgroups affected by achievement gaps,
- planned actions to meet state and local priorities,

- planned expenditures to implement its stated goals, and
- expected outcomes.

To ensure appropriate alignment between goals, plans, expenditures, and outcomes, the initial iterations of the LCAP were created through a complex process requiring districts to:

- consult with parents, students, teachers, other school staff, and bargaining units;
- present the LCAP for review to parent advisory committees (e.g., for parents of English learners) and respond to comments in writing;
- align the LCAP and the LEA budget and school site plans;
- adopt the LCAP and the LEA budget during the same public meeting;
- provide specific data to make sure allocations for targeted groups such as children from low-income families are principally spent on those children through proportional increase or improvement in services; and
- submit for review and receive approval of LCAP by a district's county office of education.

Sources: Koppich, J. E., & Humphrey, D. C. (2018). *The Local Control Funding Formula (LCFF): What have we learned after four years of implementation?* . Policy Analysis for California Education; Hawley Miles, K., & Feinberg, R. (2014). *Seizing the moment for transformation in California: California's local control funding formula*. Education Resource Strategies. (p. 3).

Iterations of the LCAP Template

The initial state versions of the Local Control and Accountability Plan (LCAP) state template were widely viewed as too long, too complex, and insufficiently transparent. They were interpreted by some districts as a compliance document. Since 2014, the state has significantly reworked the LCAP four times, and local acceptance has increased. Changes were made to better adapt LCAP to charter schools. The state's accountability dashboard has helped LEAs to use better data and metrics that can be linked to budget decisions that set goals and measure progress over 3 years. County office of education review of LCAPs has improved, though the county offices lack both capacity and a state mandate to impose some types of improvements. A number of civil rights and advocacy groups continue to urge the legislature to make LCAP more transparent and effective. The COVID-19 pandemic interrupted the implementation of the newest LCAP template, but California's commitment to continuous improvement with the LCAP process remains.

A large-scale study by the University of California, Berkeley in 2018 on the effects of LCFF found positive outcomes for all students, and particularly high academic achievement gains for those from low-income families.[79]

The California School Dashboard and System of Support

Once freed up under the Every Student Succeeds Act (ESSA) to replace the previous test-score-heavy accountability measures under No Child Left Behind with a wider range of measures of institutional effectiveness, California created a dashboard that displays district-level, school-level, and student group–level outcomes across multiple measures. The aim is to provide a more holistic view of how student needs are being met in schools and districts across the state. The California Department of Education describes California School Dashboard as the "ultimate conversation starter" that can lead to "better planning and better results for our kids" through a system of accountability and continuous improvement.[80]

Table 2 presents the statewide and local indicators that are tracked to help educators, parents, and other stakeholders identify strengths and areas for improvement, along with a list of frequently asked questions that help explain the indicators.

Table 2. California School Dashboard FAQs and Indicators FAQs

FAQs and indicators FAQs	State indicators	Local indicators
What are the indicators that are tracked on the California School Dashboard?	State indicators include: • Pupil achievement (based on standardized test scores, reported separately for English language arts, math, and science) • English learner reclassification • Rate of chronic absenteeism • Graduation rate • Suspension and expulsion rates • College/career readiness (includes 11th-grade assessment results and AP scores)	Local indicators include: • Basic conditions of learning (rate of teacher misassignments, access to standards-aligned materials, facilities in good repair) • Parental involvement and family engagement (efforts to seek family input in decision-making; promotion of family participation) • School climate (sense of safety and connectedness from school climate surveys) • Access to a broad course of study (including core academic subjects, STEM, world languages, the arts, health, career and technical education, and physical education) • Coordination of services for expelled pupils [a] • Coordination of services for foster youth [a]
What is the difference between state and local indicators?	State indicators are collected for every school and local education agency (LEA) in the state and are reported relative to statewide metrics. Reporting is based on two factors: current-year results (status) and whether results improved from the previous academic year (change).	Local indicators are based on data only available at the local level and are not reported relative to any statewide metrics. Reporting is based only on current-year results.

FAQs and indicators FAQs	State indicators	Local indicators
How are state and local indicators disaggregated?	State indicators are broken down by school and by numerous subgroups when there are 30 or more students per subgroup, including: • Race/ethnicity • English learners • Socioeconomically disadvantaged students • Foster youth • Homeless youth • Students with disabilities	Local indicators are not further disaggregated.
How are state and local indicators rated?	State indicators are rated on a five-point color scale: • Blue (highest performance) • Green • Yellow • Orange • Red (lowest performance)	Local indicators are rated as met, not met, or not met for multiple years.
Do LEAs or schools receive a single overall rating?	No. The aim of the dashboard in providing data on multiple measures is to give a more complete view of how student needs are being met than can be achieved with one overall rating.	No. The aim of the dashboard in providing data on multiple measures is to give a more complete view of how student needs are being met than can be achieved with one overall rating.
Can LEAs add local indicators they feel are relevant?	Not applicable	Yes, LEAs can add local indicators, such as social and emotional learning measures.

[a] Indicator applies exclusively to county offices of education.

Sources: California Department of Education. California school dashboard and system of support and California school dashboard frequently asked questions; Furger, R. C., Hernández, L. E., & Darling-Hammond, L. (2019). *The California way: The Golden State's quest to build an equitable and excellent education system*. Learning Policy Institute.

Based on these state and local indicators, districts and schools may be selected for support to improve student opportunities to learn and associated outcomes through California's System of Support. This support includes differentiated assistance for eligible LEAs, which can receive individually designed supports from county offices of education and numerous targeted state agencies to address performance issues that arise from the dashboard indicators. According to the California Department of Education, "The State Superintendent of Public Instruction may require more intensive interventions for LEAs with persistent performance issues and a lack of improvement over a 4-year period."[81]

Key questions for LEAs based on their dashboard measures include the following:

- What is the LEA doing to address the disparities in outcomes where an individual student group is in the lower two ranges (red and orange)?
- What were the two most significant conclusions from local information collected from a local indicator not on the state dashboard?
- How can an LEA's answers be incorporated into its Local Control Accountability Plan?

Integration With Postsecondary Education

The Common Core State Standards were created in part to help students more effectively bridge K–12 and postsecondary education. For example, the new assessments developed by the Smarter Balanced Assessment Consortium send students and parents reliable signals about college readiness. Grade 11 assessments indicate the extent to which students are ready for college. California K–12 and postsecondary leaders and teachers have collaborated on new policies to use the Common Core for revamping the transition to college. California State University and California Community Colleges leaders are part of California's Smarter Balanced delegation and use assessment results in their first-year placement process. The California State Board of Education worked with the Western Association of Schools and Colleges to integrate state standards and accountability policies into the guiding principles and core elements of the protocols used to accredit California secondary schools. Secondary school accreditation is used by most California colleges and universities as a prerequisite for admitting students.[82]

Special Education Policies

In 2015, a California task force designed a new approach to special education that addressed and expanded on California's 2011 extension of Common Core standards to special education. The group recommended:

> general education and special education working together seamlessly as one system that is designed to address the needs of all students—as soon as those needs are apparent. Within that system, students with disabilities receive effective services, learn in classrooms that are guided by rigorous standards alongside their general education [counterparts], [receive] increased funding for special education when appropriate, and are equipped to make their own way as adults. Within this coherent system, services for children with disabilities are provided

from the time they are born through preschool and until they graduate with a high school diploma or reach the age of 22; they are devised and implemented by well-prepared general education and special education teachers who work in collaboration.[83]

Since 2015, California has made several changes in its special education policies. For example, it increased support for special education teachers through new teacher financial aid, teacher residencies, and revised teacher preparation programs. The state also decreased the use of segregated "special day" classes and better integrated state assistance for special education students into preschool and general education.[84]

Building Educator Capacity: Positive but Limited Impact

California education leaders, I wrote in 2013, quickly realized that "classroom implementation of the CCSS required massive professional development aligned to the new aspects of Common Core," with associated overhauls to California teacher professional standards and teacher preparation programs.[85] New professional development delivery models were devised, and additional targeted professional development funds were allocated.

A large array of teacher networks were created within and outside of districts across the state to help implement Common Core. In addition to state and local funds, numerous foundation grants helped, along with privately funded nonprofits. Principals were included in many of these professional development programs.[86] The primarily teacher-led Instructional Leadership Corps is one powerful example of how careful professional development can push teaching practices that support the new standards into the classroom.

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The Instructional Leadership Corps

According to a 2019 Learning Policy Institute report, *The Instructional Leadership Corps: Entrusting Professional Learning in the Hands of the Profession*,[87] ILC enables expert teachers to organize local professional development meant to spark iterative changes in practice. Launched in 2014, the ILC is a joint effort of the California Teachers Association, the National Board Resource Center, and the Stanford Center for Opportunity Policy in Education. The ILC changes the paradigm for teacher learning from one dependent on outside consultants, who often conduct one-shot workshops before they leave for the next district, to one that engages local professionals who have been trained and supported to lead ongoing learning within their own districts—and, in many cases, to carry that learning to other schools and districts in their regions.

The ILC's purposeful approach, "teachers teaching teachers," empowers teachers to lead sustainable professional development and advance instructional capacity within their districts. ILC instructional leaders are primarily teachers, augmented by a smaller number of administrators, who have received intensive professional development from ILC experts on how to implement the key instructional shifts

called for by the new standards. These instructional leaders bring that knowledge back to their home districts in the form of multiple professional development workshops interspersed with teacher-designed changes in classroom practice followed by opportunities to reconvene, reflect on, and refine these efforts.

During these workshops, ILC instructional leaders demonstrate what one of the instructional shifts dictated by the standards looks like in the classroom. Instructional leaders support their colleagues in engaging in new teaching practices they will carry to their students and in developing appropriate lesson plans. In subsequent sessions, teachers analyze authentic results from the new practices, examine student work samples, and refine their approaches. The ILC uses an iterative and collaborative process where teachers receive the ongoing support and development they need to make sustained, standards-aligned changes in classroom instruction.

The ILC achieved substantial statewide reach relatively quickly. Between its inception in 2014 and the 2019 Learning Policy Institute report, ILC leaders had provided multi-session professional learning to more than 32,000 statewide educators—nearly 10% of those across the state[88]—at more than 2,000 schools in nearly 500 districts. While there is still plenty of further reach to establish, and plenty of ongoing professional development to lead in order to support new teachers and those continuing to refine their craft, this effort is a promising start.

The 2019 report identified five key lessons with respect to the ILC:

1. Teachers value professional learning led by their colleagues.
2. ILC membership enhances teacher leaders' professionalism and sense of efficacy.
3. Supportive structural arrangements—including more time and opportunities for professional collaboration, as well as changes in instructional leadership and teaching evaluations—foster instructional change.
4. Systematic follow-up contributes to implementation of instructional shifts.
5. Strategic relationships—e.g., with districts, teachers associations, county offices of education, universities, and philanthropic organizations—support deeper, more widespread professional learning.[89]

Shifts in Teaching Practices

Survey data from RAND's American Teacher Panel suggest that, in 2017, teachers were increasingly seeing shifts in their instruction that aligned with the CCSS and the NGSS. These nationwide data show, for example, that:

> ELA teachers … identified Common Core–related shifts, including having students engage with multiple complex texts and use evidence to develop their reasoning in written and oral arguments. A majority of surveyed teachers also reported increases in instructional practices advanced by Common Core, such as having students explain their reasoning in solving problems, constructing arguments supported with evidence, and analyzing how two or more texts address similar themes.[90]

Promising shifts were also occurring in math. According to the same survey:

> Surveyed math educators indicated increases in opportunities for students to explain their reasoning and methods in problem-solving, to apply math to solve real-world problems, to consider multiple approaches in problem-solving, and to work in small groups to build shared knowledge. Conversely, fewer math teachers reported increases in more traditional math practices, such as providing direct instruction or having students practice computations.[91]

In California, WestEd's survey results from 2015 through 2017 echoed the RAND themes: Teachers were learning together in new ways, with instruction gradually shifting. This survey showed that higher proportions of California's teachers were having students explain their reasoning, construct arguments supported with evidence, consider real-world applications, and build on each other's ideas during the discussion.[92]

Ongoing Challenges for California's Teacher Workforce

According to *The California Way*, a Learning Policy Institute report on the panoply of post–Common Core reforms in California, as of 2019 there were numerous ongoing challenges in teaching and learning. Of particular importance, "[t]he gaps left in the professional learning landscape highlight the need for the state to reestablish a professional learning infrastructure that can provide regular access to high-quality professional learning supports in all of the key areas in which progress is expected."[93] Specifically, "districts and schools need to develop and maintain a clear vision for professional development that avoids disjointed, isolated, or superficial learning opportunities that can undermine continuous improvement."[94]

Teacher shortages pose immediate and long-term challenges to the successful implementation of the LCFF and Common Core. The teacher shortage has resulted in the hiring of tens of thousands of teachers with substandard credentials across the state. Lacking strong preparation and training, these teachers often struggle with enacting the more complex Common Core–aligned instructional practices and the targeted intervention for the LCFF target subgroups. Shortages can also stifle capacity-building and continuous improvement efforts that require teachers to engage in ongoing professional learning over sustained periods of time.[95]

The educator capacity challenge expanded in 2021, when the state approved a plan for public education to all 4-year-olds within 5 years. This plan will encompass 300,000 4-year-olds by 2025 and 16,000 additional lead teachers and 20,000 assistant teachers. These educators will need high-quality standards, curriculum, and assessments. Moreover, staff will need preparation programs that provide clinical experience and enhanced child development components. Professional development and coaching must be intensified and expanded. Moreover, many elementary and middle school leaders and teachers will need help in aligning education starting with age 4 and the many grades that follow.[96]

Ultimately, high teacher turnover makes sustained professional development that much more important, not only to continue to enhance experienced teacher practice but to make sure that new teachers receive crucial supports as they work to teach to the current wave of standards.

Over the last decade, California has created a wide range of legislation, policies, structures, and procedures to better align all aspects of schooling with new high-quality instructional standards. In service of these efforts, between 2011 and 2016, California's per-pupil spending increased 26%—the highest jump nationally and more than double the average increase nationwide.

There are other early signs of positive outcomes in California that could be aligned with the beginnings of Common Core implementation and other elements of the state's new funding and accountability system, although the evidence is suggestive and not causal. For example, the high school statewide 4-year cohort graduation rate increased from just under 75% in 2010[97] to over 84% in 2021[98]; school suspensions declined by over 33% between 2012 and 2015[99]; and California's grade 8 reading gains on the National Assessment of Educational Progress [100]—were the biggest gains in the nation between 2011 and 2019.

Overall Assessment

Overall, California has taken a promising series of first steps toward embedding the standards more fully into classroom practice and student learning, though much more work remains to be done. These steps also show how simultaneously crucial and difficult it is to use the standards to lessen achievement gaps, which have persisted in California ever since it began statewide student assessments. And encouragingly, these structures are largely built to last: They are generally easy to monitor, and they require changes that add residue, such as new positions and new operational structures like changes to teacher evaluation processes. More generally, building systems around rigorous standards and assessments makes it far less likely that the CCSS, NGSS, or high-quality history/civics standards themselves are going anywhere anytime soon.

Building supportive constituencies for the changes is a more complex matter. Educator support for the necessary standards-aligned instructional shifts has been relatively strong. For example, more than twice as many California teachers and principals agreed than disagreed in surveys conducted by WestEd over multiple recent years that California's current academic content standards:

- are more rigorous than previous standards,
- make learning more relevant to students' everyday lives, and
- will have a positive impact on the degree to which students are prepared for college and careers.[101]

In these surveys, California teachers also sent a clear signal that they want and need much more professional development to implement the standards.[102] But educator support has appeared to outpace public support for standards implementation more generally and standards-aligned testing in particular.

To be sure, it is easy—tempting, even—to look at test outcomes where many students are scoring below grade level[103] and conclude that the problems are with the test, rather than with the students' actual knowledge and skills as measured by that test. And as COVID-related learning loss became more thoroughly captured by statewide assessments starting in 2022, resulting test scores will likely highlight this issue. However, 2024 test results suggest that COVID-19 has depressed test scores significantly, especially for children from low-income families.[104] How to build a stronger, more stable constituency in favor of the standards and their associated policies is thus a key question when looking to the future of standards-based reform. The latter part of this paper details how constituency building and other issues—such as better aligning the work of school boards, districts, and the postsecondary system to support standards implementation and aligned classroom instruction—can help ensure a bright future for the key instruction and learning shifts promised by systemic standards-based reform.

Reflections From a Career in Standards-Based Reform

Whether academic content standards like the Common Core State Standards and the Next Generation Science Standards have succeeded or failed is premature to ask at this time. These standards are still in a relatively early implementation phase in most states—California's system, for example, had only been implemented for 5 years before the COVID-19 pandemic—and patience is warranted while states build the necessary structures and capacity to improve student outcomes through standards-aligned instruction. Instead, questions of progress toward fidelity of implementation to the goals of these standards should be asked and answered. What supportive systems and policies have been posited as necessary to ensure robust standards implementation—for example, related to curriculum, assessment, teacher development and support, school finance, K–16 integration, and more? Which systems have been built, and which are still needed? What measures are in place to support teacher capacity-building in service of instruction that thoroughly and authentically embeds the standards into everyday student learning, and what needs to be introduced or deepened? Further, what creative steps could be taken to rework systems of schooling that have not traditionally been closely aligned with instruction, such as central district operations or school boards?

Without full implementation, including through rigorous teacher capacity-building that shifts teacher instruction and student learning toward the deeper learning aims of the standards, it is no surprise that standards-aligned assessments are not yet showing the desired levels of proficiency. But only after the appropriate systems, policies, and supports are in place to help these new content standards be fully realized can their efficacy be reasonably judged. Building necessary systems of support is indeed a challenging task, and it could be tempting to put pressure on states to give up before all appropriate capacity is in place. However, the potential of the standards to truly mold instruction for 21st-century needs more than justifies the effort.

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Many states approved standards based on the Common Core by 2010, but significant implementation did not start until later. For example, California began implementing in 2015 after it had adopted curriculum frameworks and new assessments. During the intervening years, priorities were targeted toward to making tough financial choices during the Great Recession and then subsequently toward restoring budget cuts. The notion that states have had 10-plus years of Common Core implementation is thus functionally incorrect. Realistically, the bulk of system-level Common Core implementation began only within the last several years before the pandemic, and states, districts, and schools have needed to simultaneously develop or expand many interlocking and constantly moving policy elements to build systems that holistically support standards implementation at the classroom level. Some states have barely gotten beyond standards adoption. Ultimately, few states have come anywhere close to building the capacity of teachers and school leaders to provide the teaching and learning required for such a substantial reconceptualization of what students should know and be able to do by the time they graduate high school.[105]

Essentially, the new standards provided a 21st-century vision of K–12 education using 20th-century local school structures, resources, and culture, and the integrated research and development to build more effective teaching practice, tools, and resources is just recently underway. And with the onslaught of COVID-19, states and districts largely entered a crisis mode that distracted from major initiatives, with massive interruptions to the flow of teaching and learning just when they were starting to build momentum for classroom-level standards implementation.

How Reforms Can Maximize Implementation and Outcomes

Based on the current status of systemic standards-based reform in the United States, this section focuses on recommendations that can ultimately help facilitate standards implementation and associated student outcomes. Many of these recommendations are not easy to accomplish, and most are relatively new and untried. But they are not made lightly, and they are infused with perspective from a nearly 60-year career in which I have had front-row access to the evolution of systemic standards-based reform along with myriad other policies related to teaching and learning. Recommendations include the following:

- **State systemic academic reform concepts must be drastically enlarged in breadth, depth, duration, governance, and funding.** The California reforms described in the previous section are an example of how to begin to build structures and systems that help support standards-aligned instruction. These structures and systems include, but are not limited to, curricular frameworks, instructional materials, assessments, and aligned teacher development, school finance, governance, and data and accountability systems. Data systems are especially important in bringing all of these structures and systems together and ensuring they are doing the appropriate work to support teaching and learning. But building these systems is work that must be sustained over time.

- **Capacity-building for school leaders and teachers must reach far more than a small minority of the total workforce, with responsibility split between the states and a large network of local and nonprofit entities.** Local districts may be overwhelmed and overloaded in trying to implement all the necessary elements of state systemic reform, particularly when it comes to hands-on support for standards-aligned instructional shifts. This situation requires much more robust and strategic support for districts and schools, some from state departments of education but primarily from a massive network of state-led local entities and nonprofit organizations. Technology and digital platforms can play an important role in expanding the reach of professional development that previously needed to be delivered in person.

- **Systemic reform focused on instruction must extend more directly and deeply into central school district operations.** In most districts, school reform has barely touched central school district operations like budgeting and finance, human resources, or facilities. Weak and disconnected local central operations undermine progress in instruction and teacher capacity-building. For example, the lack of state and local attention to cost-effectiveness has failed to free up money to help improve instruction. In service of systemic standards-based reform that moves the needle on instruction, local districts would be much better served by including district operations units in their core reform strategy.

- **School boards need to maintain a focus more on policy that supports instruction and less on unrelated operational details.** Of the entities involved with school governance and accountability, the school board is best positioned to ensure the coherent linkage of the various components of standards-based reform. To accomplish this, the school board must regularly send a clear message

to the full school system that standards-based reform is its primary objective, rather than simply an experiment. But asking a school district to lead systemic reform while continuing to perform their entire current range of legislative, executive, and judicial functions is untenable. Instead, school boards would better help implement standards-based reform from a role in which they establish policy and provide policy oversight but do not implement policy or district procedure in detail.

- **K–12 schools must transcend their traditional scope and role by bridging postsecondary boundaries and incorporating whole child education.** This objective means better involving and integrating career/technical education and postsecondary systems in support of K–12 education. K–12 and postsecondary education operate in fundamentally different worlds in the United States. Essential structures—governance, funding, accountability and assessment, and pedagogy—are kept separate, while large numbers of students regularly flow across the system divide. This objective also calls for moving beyond the formal K–12 curriculum to incorporate a whole child approach to education that enables student learning and prepares students for life post-graduation.

- **States and districts should look to international locations where instructionally focused reforms have taken hold and apply lessons that are germane to their local contexts.** At a level analogous to state systems, the Canadian province of Ontario and the Australian state of Victoria have produced strong systems of educator professional learning and instructional leadership, with a focus on student equity.[106] National examples from South Korea, Singapore, and Finland also present useful takeaways. Louisiana offers a successful domestic example for state teacher support infrastructure. Importantly, these entities have relied on large-scale change, using a context-driven architecture and the corresponding operational building blocks rather than relying on smaller nudges or niches to build educator capacity.[107]

- **States should build a constituency to support systemic standards-based reform**—including authentic integration of the standards into classroom instruction and student learning—to help ensure sustained progress and patience with the process. An earlier section of this paper describes three criteria that help ensure whether a reform will stick: new structures, easily accessible evidence of compliance, and a powerful constituency in support of the reform. Standards-based reform, when implemented fully, builds structures and creates more precise data, but it lacks such a constituency. Garnering support through a combination of teacher interest groups and public advocacy would help keep states and districts moving ahead in terms of building supportive structures and capacity for standards implementation and would help assuage concerns of individuals and interest groups who wonder if progress is too slow. Teacher unions, which are experienced in constituency building and political activity, can help to galvanize public support.

Building Capacity of School Leaders and Teachers

For the most recent wave of state standards to be implemented with fidelity to their goals, effective, aligned, sustained professional development must reach and build the capacity of the entire teacher workforce. To quote a 2017 synthesis of research, teacher professional development is poised to change teacher practice and improve student outcomes when it "is content-focused; incorporates active learning utilizing adult learning theory; supports collaboration, typically in job-embedded contexts; uses models and modeling of effective practice; provides coaching and expert support; offers opportunities for feedback and reflection; and is of sustained duration."[108]

Further, the shifts required of teachers and instructional leaders are substantial. New math standards, for example, call for students to explain and justify their reasoning and make connections between different solutions in a much deeper manner than was the case in the No Child Left Behind era. Teachers' instruction is probably not going to improve if they have not developed relatively sophisticated visions of their students' mathematical capabilities. Teachers need to develop their own vision of high-quality math teaching. Teachers must select cognitively demanding tasks. Teachers need rapid feedback mechanisms and formative student assessment of pupil learning. And analogous shifts in the other core subjects are similarly required.

These are no small tasks. The local district is the first entity one would typically look toward in coordinating efforts to build teachers' capacity to implement standards-aligned instructional shifts and to build school leaders' capacity to support and ensure these shifts. But coordinating efforts is very different than actually conceptualizing and providing all of the necessary staff development in-house, especially since this staff development must be thorough and sustained over time in order to lead to consistent changes in instruction and student learning.[109] Thus, an expanded state vision and role merit careful consideration.

Envisioning a New, Broader State Role in Improving Instruction

In their 2022 article, Cohen and Slover lay out a road map for the state role in improving instruction in service of standards-based reform that is worthy of serious consideration. Their key recommendations include the following:

- States should adopt policies requiring every district to demonstrate that its curriculum, instructional materials, professional learning, and local assessments are aligned with each other and with state standards. States should help districts build a coherent instructional program, drawing heavily on the lessons from the Council of Chief State School Officers' High-Quality Instructional Materials and Professional Development Network, and then start holding districts accountable for the coherence and quality of their instructional program.
- School districts should be responsible for conducting or commissioning a "coherence" analysis, with guidance provided by the state. There is no off-the-shelf guide for this work, but a recent "challenge paper" from the Carnegie Corporation of New York provides a solid framework for aligning professional learning with high-quality curriculum materials and describes the leadership and resources necessary to promote and sustain coherence.
- States and districts should work collaboratively with outside experts to develop the instruments and metrics that can determine the coherence of local instructional programs. Foundations should help launch this process by funding research and development and the piloting of tools.

Source: Cohen, M., & Slover, L. (2022). *Unfinished agenda: The future of standards-based reform*. FutureEd at the Georgetown University McCourt School of Public Policy.

The State Function in Local Capacity-Building

In the current environment—especially on the heels of a global pandemic that caused multiple years of massive disruptions to the education delivery system—it is entirely reasonable for local districts to be overwhelmed and overloaded. Indeed, even before COVID-19, districts were struggling just to incorporate enough of the major state policy changes for the fundamental instructional elements of Common

Core and other new standards to be successful (e.g., integrating new curricular materials, adjusting to new accountability systems, and far more). Providing sufficient professional development to support standards-aligned instruction requires a much more robust and strategic effort of state support for both districts and schools. Through the Every Student Succeeds Act, the federal government focuses on state support for school site problems but with scant attention to the crucial role of districts.

State departments of education are chronically underfunded, and staff are inadequately compensated. States lack the staffing capacity, and in many cases the appropriate field office structures, to adequately assist schools or organize external organizations to fill in the gaps or enhance local capacity.[110] A regional approach will be needed in almost all states using existing or newly created regional entities, as most state instructional support needs to come from a massive network of state-led local entities and nonprofit organizations. Currently, while certain regions of some states have a dense array of staff development activities reaching at least some teachers and principals, others have very little going on. The Instructional Leadership Corps in California (see Implementing the New State Content Standards: A Deep Dive in California) is one of numerous promising examples, though it still requires more growth to deliver professional development at sufficient scale.

As of yet, Louisiana is the closest to having developed a blueprint for how to build and sustain, at large scale, an instructional support infrastructure across all types of localities to upgrade local educator instructional capacity.[111] (See K–12 Education: Expanding the Scope and Role.) This type of plan should become a priority for all states. State leaders and local districts have often spent less on local capacity-building than is necessary to meet new curriculum standards and accountability requirements; this situation must be rectified. States also need to be more aggressive in helping districts find and use better instructional materials rather than expecting local control to do the job. Moreover, states need to evaluate the quality of their existing state assessments and help districts to align them with interim and formative assessments. Summative and interim assessments should help guide teachers on how to reteach instructional blocks that students are not mastering.

Statewide Scale-Ups and Data Systems

A statewide scale-up should start with teacher preparation and recruitment and include local support for all components of human resource development.[112] A sustained effort for building teacher capacity is continuously needed, in part because of the influx of new and often underprepared teachers into the system. Faculty in schools of education can evade well-designed state teacher preparation standards because states have insufficient policy instruments to guide what is taught in colleges and universities or through other teacher preparation providers. Local district teacher residency programs have considerable promise but thus far have not increased in scale to provide a large or diverse supply of new teachers.

Because human and organizational capacity-building at the local level is expensive and difficult to carry out, technology and digital platforms must be designed to lower costs in such areas as intensive professional development. The way some school districts, schools, and teachers have responded to the COVID-19 pandemic has put the spotlight on some digital possibilities for less expensive and more versatile educator capacity-building strategies that can better fit with individual teacher time constraints. For example, students could be taught using individualized technology packages during a part of a school day, while teachers are released to attend a few hours of professional development that would otherwise necessitate the hiring of substitute teachers.

At the state level, effective longitudinal data systems are also imperative to do the rest of this work well. According to the Data Quality Campaign:

> A robust, well-governed data system provides families, educators, communities, and policymakers with the information they need to foster successful journeys through education and the workforce. Modernized … data systems that collect data over time and across sectors allow decision-makers at all levels to answer their most pressing policy questions and better support individual students on their pathways through education and into the workforce.[113]

Systems that combine higher education and workforce data, as described in K–12 Education: Expanding the Scope and Role, are far preferable to systems that silo K–12 data. The Data Quality Campaign provides numerous resources that help states think through what to include in an appropriately robust data system.[114]

State Control vs. State Support

Some critics of state standards call for more state control of what happens after teachers close the classroom door. But to be clear, there is no obvious path or mechanism to exert enough state control in hundreds of thousands of classrooms for top-down implementation of the series of complex instructional shifts called for by the new standards. Advocating for the state to take an expanded interest in ensuring and coordinating local capacity-building does not equate to explicit state control over what is being taught or how exactly a teacher goes about delivering that instruction. The latter would likely achieve minimal local buy-in, with school internal accountability not matching state external accountability in a loosely coupled system capable of fairly autonomous actions by teachers.[115] Instead, schools must internalize the new standards as their own and not an intrusion from the state.

In short, history and current research clearly demonstrate that standards-based implementation is unlikely to be advanced by additional regulations, mandates, and sanctions from the top down.[116] Teacher support for complex instruction instead must be constructed from the bottom up. Nonetheless, the state's support for human capacity-building is crucial to the success of bottom-up reform. This broad strategy shifts from the wrong policy drivers (negative accountability, fragmented policies, and focusing overwhelmingly on schools and not districts) to the right policy drivers (building with internal/external accountability, collaborative teamwork, and pedagogy improvement).[117]

Extending Instructional Reforms Deeply Into Operations

Systemic reform is, by its own definition, a phenomenon that requires the cooperation of entire systems. Systemic reform in service of implementing academic content standards, then, requires a focus on instruction across the various core functions of a school district, whether or not they have previously focused on the linkage between their roles and instructional improvement. These core district functions, though historically siloed, are not mutually exclusive and must move into much closer alignment to support the instructional shifts the new standards require. According to Meredith Honig, "The emphasis on central offices reflects reams of research and experience that show that without central office leadership, reform efforts lumber or fail at single schools and at scale across districts."[118] This section explores opportunities to align core district operations with instructional goals and to reimagine human resources and business departments' roles in expanding quality instruction.

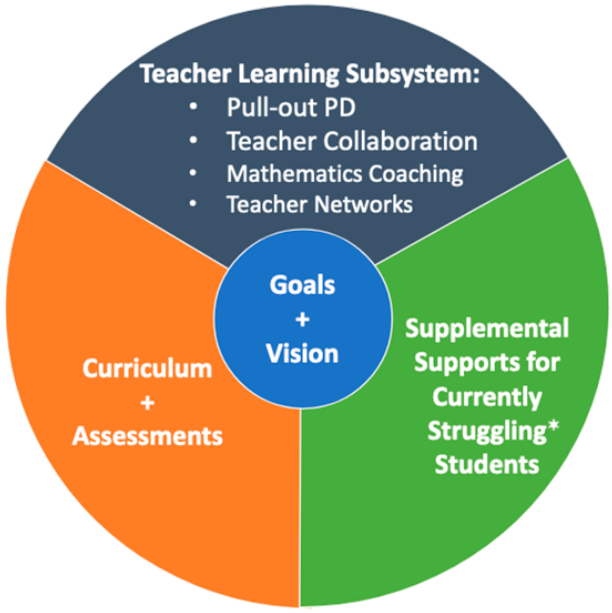
Aligning District Functions in Service of Instructional Improvement

The goal of better aligning districts' core functions in this manner is instructional coherence. As Kunjan Narechania explains:

> Most classrooms are not instructionally coherent, largely due to the way districts currently make academic decisions in any given school year. Each of these decisions, whether it's about what instructional materials to purchase or how to observe and offer feedback to educators, are often made by individuals in different offices within a district and thus without consideration of other related decisions and without consideration of how these decisions will, together, play out in a classroom. The result is often a single teacher being provided one curriculum, three online supplements from different sources than the curriculum, two different formative assessments, training on a generic topic like differentiating instruction with no connection to the aforementioned tools, and observation and evaluation protocols that are entirely disconnected from an actual plan for student learning. Any teacher in such a circumstance would find it difficult to build a coherent plan of instruction for her students.[119]

In *Systems for Instructional Improvement: Creating Coherence From the Classroom to the District Office*, Cobb et al. articulate the components of a coherent system for math instruction (see Figure 3). These components could be applied to other areas of instruction as well.

Figure 3. Components of a Coherent Instructional System



Note: PD = professional development.

Source: Adapted from Cobb, P., Jackson, K., Henrick, E., Smith, T. M., & the MIST team. (2018). *Systems for instructional improvement: Creating coherence from the classroom to the district office*. Harvard Education Press.

Such a transformation requires several key shifts. Particular attention must be paid to modifying budgeting and human functions to more closely support standards-aligned instruction, as will be addressed in subsequent sections. More generally, it would behoove school districts to align their different organizational divisions to an organization-wide vision, mission, and goals. For example, standards-aligned materials can be embedded throughout professional learning systems, curricula and assessments, leadership initiatives, and central office departments and partnerships.[120]

Key Lessons for Improving District Operations

In the education context, it is important to align the different parts of the organization to its instructional outcomes. James R. Brown, Emeritus Partner of Leadership Associates and a former superintendent for numerous school districts all over California, offered the following insights related to planning in the context of district leadership:

- **Recognize the limitations of a position control approach to hiring.** "Position control" refers to an approach where business offices and human resources departments create budgets for positions and then hire only for a specific number of positions based on what the pre-established budgets can support. It is a helpful strategy for preventing overhiring and keeping costs down. The result in school districts is that business offices tend not to want to hire a teacher until the enrollment is clearly there to fund the position. Yet—particularly in subjects with persistent teacher shortages, such as the STEM subjects and special education—it is especially important not to let a good candidate go somewhere else. This is an area where business, human resources, and curriculum and instruction departments should work closely together to develop hiring and budget practices that allow the district to hire any excellent teachers that come across the transom in a timely manner, which may require shifting funds from elsewhere. This topic is particularly timely because of the extent to which COVID-19 has inhibited teacher supply markets, so new and better teacher recruitment strategies are urgent.[a]
- **Help every district staff member feel connected to the district's key operational mission.** In particular, many classified staff tend not to see themselves as connected to the district's teaching and learning goals—yet they are, in critical ways. The bus driver who is the first person to see a student in the morning, the food service worker, the secretary, the landscaper who mows the grass during reading instruction: all these people connect to teaching and learning in important ways, and by doing their jobs smoothly, they pave the way for teachers to teach and students to learn. Districts need to recognize this and help connect all staff to realize their role in student success.
- **Identify logical opportunities for cross-functional teamwork and encourage cross-department hiring** to help all district staff understand how their roles connect to each other and to core district goals. Many district employees, especially in the larger districts, follow a relatively set career ladder that involves being promoted repeatedly within a particular division (e.g., curriculum and instruction). Unless the organization encourages or even requires a lot of interdepartmental work, many miss seeing the critical interdepartmental linkages that should be in place.
- **Train up-and-coming district leaders on the theory and practice of districtwide organizational alignment.** Many postsecondary education leadership development and credentialing programs neither emphasize the importance of organizational alignment, nor focus on

the importance of having a good plan to accomplish this goal through interdepartmental collaboration strategies. If the leaders the district is growing or bringing in are not receiving this training externally, it is important that they receive internal coaching.

- **Align human resources and business office work with broader school board strategic plans.** School board strategic plans often have no goals associated with either human resources or business operations functions. School boards need to address the importance of aligning human resources and budgeting work to the district's strategic plan and instructional goals.

[a] Kini, T. (2022, January 11). Tackling teacher shortages: What can states and districts do? [Blog post]. *Learning Policy Institute*.

Source: Personal correspondence with James R. Brown, Emeritus Partner, Leadership Associates, and former superintendent of numerous California school districts. (2021, April 5).

To a greater extent than might be intuitive, cross-functional teamwork within a district is especially important for school-level instructional collaboration. Organizational disjunctures can, for example, hinder the ability of principals to provide integrated educational leadership. District structure may make it difficult to develop a coherent teaching approach given the siloing of departments that directly affect instruction—for example, when departments that serve specific student needs like special education, social and emotional learning, or English language instruction are separated from the main curriculum and instruction department. Without substantial cross-department collaboration, districts can find it difficult to carve out teacher and coach time from the school day to provide extended collaboration work or to ensure the time available can be used effectively.

Additionally, the coherence and alignment of state instructional improvement strategies starting in the 1980s, discussed in Setting the Stage for Standards-Based Reforms and The Evolution of Standards-Based Reforms, need to be matched by district buy-in to provide the same type of integrated and supportive instructional approach many states use. See Implementing the New State Content Standards: A Deep Dive in California for further details on this approach.

Aligning Human Resources Functions With Instructional Goals

As discussed, states have encountered a major obstacle in instructional capacity-building: lack of consistent activity to ensure that efforts reach all districts, teachers, and instructional leaders. Further, teacher supply shortages have persisted, particularly in many subfields. Each of these are human resources issues.

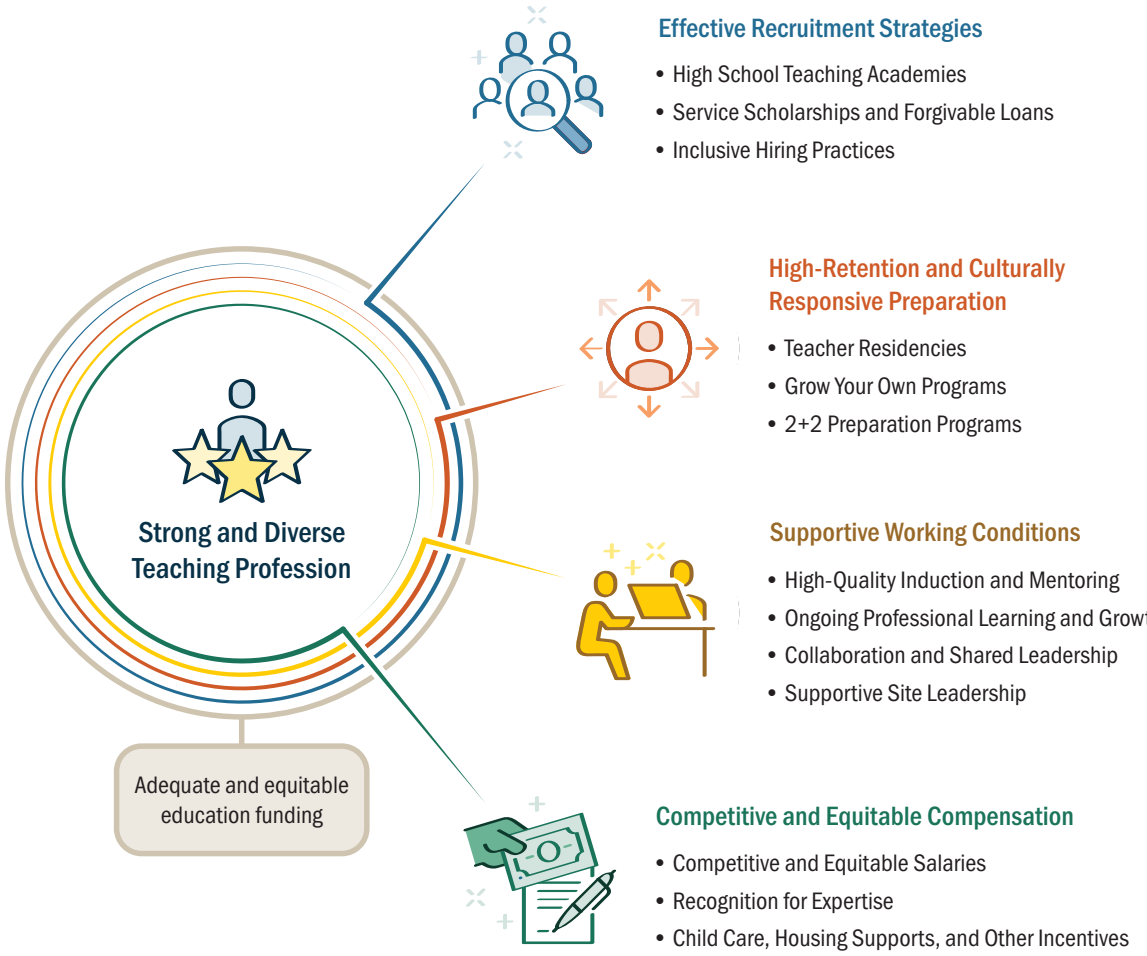
Ultimately, instructional improvement cannot work without district strategic plans and integrated actions for acquiring, developing, and retaining talent that flow from the district educational improvement strategy. All parts of the human resource effort must be aligned and address recruitment, selection, staffing, induction/mentoring, professional development, performance management/evaluation, compensation, and instructional leadership—particularly in fields that have long experienced shortages of qualified

Ultimately, instructional improvement cannot work without district strategic plans and integrated actions for acquiring, developing, and retaining talent that flow from the district educational improvement strategy.

teachers, such as special education. A common vision of effective instruction needs to address all essential personnel components. Figure 4 provides an overview of the objectives and flow of a strategic management approach for creating and sustaining effective human education capital.

State policy can augment human resource efforts toward comprehensive strategic management of district human capital. For example, a promising approach to teacher recruitment and high-quality preparation is through state funding of teacher residencies, which subsidize teacher preparation in high-need districts that are partnered with universities to ensure that preparation and mentoring provide a seamless pathway. Candidates are supported financially and pay back the investment with a service commitment. The result is higher retention and effectiveness of a more diverse workforce.[121] States can also provide incentives for teachers to obtain additional relevant certifications or credentials that build their capacity to teach to the new standards, like seeking certification by the National Board for Professional Teaching Standards. California, for example, provided $250 million in 2021 to cover licensure fees and teacher pay increases for attaining National Board for Professional Teaching Standards certification.[122]

Figure 4. Objectives of a Strategic Human Resources Approach for Creating and Sustaining Effective Human Capital



Source: Partnership for the Future of Learning. (2021). *The Teaching Profession Playbook*.

Improving Local Strategic Allocation of Fiscal Resources and Budgeting

The business unit responsible for allocating financial resources tends to be overlooked when it comes to fostering support for standards-based reform, yet its role is among the most important. In short, the essential role of district financial leaders must be to leverage limited resources to maximize student learning, rather than creating budgets and fiscal plans that rely on business-as-usual practices. Without incentives to evaluate and manage resources around a coherent instructional agenda, the chief financial officer (CFO) is seen as the chief accountant, rather than a key leader in the provision of standards-aligned instructional practice and improved student learning.

For example, when it comes to decisions such as using funds to increase salaries versus hire more personnel versus provide more professional development, the central district administration should be guided by the district strategic plan to make informed trade-offs. There is often substantial money available to finance large-scale improvements in effective professional development. But the money is spent elsewhere and has to be reallocated to focus on student achievement. Certain federal and state categorical money and non-instructional administrative funds could be reallocated.

In this type of more flexible, student-achievement-centered budgeting, the CFO would use prior-year budgets as a reference and not a default. Budgets would be integrated with human resources plans through asking questions like: What roles and skills do we most want to attract? What are the staffing implications of our district instructional models? Various sources of funds from inside districts and other children's agencies would be braided to address the needs of the whole child. The budget would be designed as a tool to support community engagement. CFOs also need to rethink school schedules to create time for teacher collaborative learning.[123] There has been a recent proliferation of community schools across the United States, and these require especially strong support from the fiscal office to finance all the different wraparound student services that must be blended together in a cost-effective manner.

Multiple barriers need to be overcome to fully realize this business-leader-as-instructional-leader role. For one, some accounting codes required by the federal government are vague and misleading and have not changed since the 1960s. These individual accounting codes are too broad in scope to be useful to the district, lumping expenditures into large buckets like instruction, administration, and facilities. These buckets obscure where the money is going and mask district instructional strategies like professional development.

Most states have not created programs to prepare financial staff for strategic financial leadership. Preparation focuses mostly on audits, contract management through compliance with state and federal grants, and traditional incremental budget formulas. A lot of preparation is on-the-job training concerning the existing budget system rather than how to enhance the return from investments. There is little exposure to using cost-effectiveness, financial trade-offs, and comparisons with other district budgets.[124]

Additionally, the use of technology such as blended learning needs to be rethought based on what worked during the pandemic. Technology use in particular highlights possibilities for cost-effective innovations, which have been a prominent theme in economics but rarely applied to local school budgets.

Freeing Up Funds and Improving Student Outcomes

Business units looking to align spending with standards-based instructional goals should rely more heavily on cost-benefit and cost-effectiveness analysis than is traditional in educational settings. As education economist Henry Levin describes:

> Knowing "what works" in policy is important, but so is knowing what policy alternatives cost. For instance, do the benefits of a certain program or intervention outweigh its costs? Or, among two interventions designed to achieve the same goal (say, improving children's reading ability), does one produce a given level of improvement at a lower cost? Questions like these can be answered with cost-benefit analysis and cost-effectiveness analyses.[125]

In an essay on using budget to support student-centered instructional changes, Nathan Levenson provides a range of examples.[126] One illustration of this approach to cost-effectiveness arises from comparing programs to enhance reading. One district discovered that two of its schools used different reading approaches to support students with disabilities. Each school had a full-time staff member dedicated to this effort. Both schools followed nationally known approaches. Both approaches are best practices according to What Works Clearinghouse and have research demonstrating that the approach can achieve 1.5 times the typical annual student achievement growth. However, one approach costs $5,000 per student, while the equally effective alternative costs $1,875 per student. It is fiscally wasteful to spend 2.5 times as much to get the same results. When schools embrace high-cost strategies, they inadvertently ration services and can include fewer students in an equally effective approach.

Similarly, budget choices can make a difference for schools looking to increase math attainment. For example, districts could choose to invest more in extensive professional development and adopt new hiring practices, including targeting teachers at higher steps and lanes if the candidates had strong math credentials. The district cut paraprofessional math tutors to offset new expenditures.

These examples illustrate avenues for comparing instructional strategies to raise achievement. However, most publications recommending a specific education reform fail to include the costs of interventions or any reference to the comparative costs of other approaches to reaching a positive outcome. It is thus the responsibility of the district office to do this digging in order to best allocate funds toward districtwide instructional goals.

School Boards: Focusing on Instruction

As established earlier in this paper, teachers need access to richer professional development opportunities on an ongoing basis if they wish to achieve the goals of standards-based reform. To this end, they need consistent direction and support from district central office staff. But as Diane Massell, Margaret Hoppe, and I explained:

> Some policymakers have ignored the role of district administrators and local boards, frequently conceiving of them as impediments to be bypassed rather than as partners in the change effort. Yet these administrators are often pivotal conduits for reform, interpreting its substance and providing—or not providing, as the case may be—both organizational structures and resources that affect whether and how reform policies are translated into school and classroom practices.[127]

Can School Boards Do It All?

School board members, like teachers, are asked to play a tremendous number of simultaneous roles in any given district. In the case of school boards, these are different varieties of oversight roles, modeled on the functions of a large corporation. In a 1994 article, I explained how these roles are analogous to the three branches of government, with one entity serving simultaneously as the executive, legislative, and judicial branches. This combination of roles, I wrote, "is too expansive and often leads boards to try to do everything by not doing much of anything in depth."[128] Many school board members are more comfortable with practical matters that focus on operations, such as budget changes and construction. Strong incentives and training will need to be developed before school boards can deepen their focus on policy.

The Many and Varied Roles of the School Board

Legislative. School boards play a legislative role when they adopt budgets, pass regulations, and set policies. Moreover, they provide the constituent-services component of a legislator's district office. Parents will phone board members about fixing showers in locker rooms, relocating school crossing guards, and reclassifying children placed in special education. Many board members believe that an essential part of their role is to "fix" these individual complaints, because failure to respond may mean defeat at the polls.

Executive. School boards play an executive role when they implement policy. Many school boards approve not only the budget but also almost every individual expenditure and contract for services. For example, a half-day consulting fee for a university professor must be approved by some school boards. The board performs the same role, on a smaller scale, as overseeing the U.S. Department of Education's contracting office and the federal Government Accountability Office. Many boards approve the appointments of principals, vice principals, categorical program administrators, and even teachers.

Judicial. Judicial hearings concerning student suspensions, expulsions, interdistrict transfers, and pupil placements can consume an enormous amount of time. After all administrative remedies are exhausted, the board is often the final body for appeal, though citizens may still turn to the courts in some cases.

Source: Kirst, M. W. (1994). A changing context means school board reform. *Phi Delta Kappan*, *75*(5), 378–381.

It does not take a particularly skeptical observer to question whether any board can reasonably carry out all of these responsibilities effectively, especially when school boards are comprised of part-time officials with other day-to-day responsibilities and board meetings are largely carried out in public sessions that can take up a great deal of time. Yet the specific types of policy oversight that teachers rely on school boards to conduct in the context of standards implementation are by themselves varied and time-consuming. For example:

> [Boards] need to ensure that their assessment, instructional materials, staff development, categorical programs, and fiscal policies are aligned with the curriculum content standards that embody what students need to learn and be able to do. The school board must play a critical

> and unique role as the vital link in making sure central office reform actually happens. The school board is the entity that can ensure that various components of standards-based reform are linked coherently and do not become merely disjointed projects.
>
> To do this, the school board's consistent message to the entire school system must be that reform is its main mission and not just an experiment. The board has a major role in orchestrating numerous policies and looking for gaps in policies and conflicts between them. The state assessment requirements, for example, might conflict with local categorical programs, or board curriculum requirements might conflict with state categorical programs.[129]

Ultimately, then, I asked in 1994, "Does the essential policymaking role of the board suffer as other roles and functions become more important?"[130] The answer, almost inevitably, is yes.

Enhancing the School Board Policymaking Role

How, then, can school boards achieve this focus on policy? One logical approach would be to delegate many of their administrative oversight functions to others within the district. In a more policy-focused role, school boards would be responsible for developing strategic plans with both long- and short-term goals as well as objectives, performance indicators, and pupil assessment systems. As part of their strategic planning, "policy boards" would help align curriculum frameworks with instructional materials and professional development. The result would be clear and coherent policies concerning what children should know and the skills they should possess. School boards would not be involved in curriculum development but would instead establish overall curriculum objectives and directions.[131]

School boards would continue to exercise overall responsibility for the budget, collective bargaining, and education initiatives. However, their performance of these functions would change significantly. They would not review all contracts that are competitively bid, nor vote on contracts for limited amounts (of course, the definition of "limited" would depend on the size and budget of the district). They would establish overall goals for labor agreements and approve the final contracts, but they would not be involved in the negotiating process. Drawing from the district-level Local Control and Accountability Plan (LCAP) that accompanies California's Local Control Funding Formula, school boards would oversee a more transparent budgeting process that includes public participation and aligns funding priorities to broader district strategic plans.

When it comes to budget and spending priorities, local school boards would take actions like setting contracting and purchasing policies. They might also consider hiring independent auditors to oversee implementation of such policies, as recommended by a national Task Force on School Governance commissioned in the early 1990s.[132] However, school boards would not supervise these arrangements to the extent that many boards now do; for example, while policy boards would continue to approve construction projects, they would not approve the purchase of pencils. For large capital projects, I recommend that school boards consider creating a committee, including some board members as well as individuals from outside appointed by the board. The building committee would be responsible for actions like overseeing new construction, leaving more board time for the primary tasks of establishing, monitoring, and overseeing education policy.

School boards would also ensure the creation of effective staff development policies aimed at improving many aspects of teaching. Many existing staff development programs are inadequate, often lacking the duration, follow-up, and support necessary for teachers to implement innovative and effective teaching strategies and models. This does not imply that staff development plans would be identical at each site, nor that the board would manage those programs day-to-day; instead, the policy board would be responsible for the programs' creation and oversight.

In sum, school boards would exist to establish policy and provide policy oversight, not to implement policy or district procedure in detail. For instance, the board would be responsible for hiring a district chief executive officer (superintendent) to serve as the administrator of the district, presiding over the day-to-day operation of the school system, but would not be involved in the hiring of employees beyond a few senior administrators. Boards would not interview or approve prospective principals. Instead, principals would be selected in accordance with personnel policies set by the board. Boards would, however, be notified of all appointments; they might also conduct periodic reviews to ascertain whether board personnel policies are being followed. Boards also would be well served to move beyond the current budget review procedures to a strategy that examines their students' progress toward the goals outlined in the LCAP and makes judgments about how the budget should be allocated to accomplish the educational goals that are highlighted as pressing needs.[133]

K–12 Education: Expanding the Scope and Role

To heighten the value students receive from standards-based reform, K–12 education could expand in scope and role to wed standards with practices that meet a wider range of students' needs. This work falls into two buckets: (1) preparing students for higher education by bridging the divide between secondary and postsecondary learning and (2) extending school structures to include whole child education.

Postsecondary Connections

In an article called "Connecting Schools and Colleges: More Rhetoric Than Reality," I explained the disjuncture between the college-bound rhetoric students and schools use and the actual readiness for students to attend, persist in, and complete college. "Many of the nation's 8th-graders aspire to college," I wrote—and the vast majority matriculate in some form of postsecondary education or training—but "unfortunately, the … majority of them will not realize their ambition to complete their higher education and gain some advantage in the job market."[134] There are many interacting factors contributing to college noncompletion—college transfer policies, financial and family circumstances, and, most relevant to the discussion on standards-based reform, preparation. As Andrea Venezia and I elaborate, "underserved students face many more challenges navigating into and through higher education than do traditionally college-bound students." The upshot is that "efforts to connect the K–12 and postsecondary systems must overcome the deep historical divisions between the two systems."[135]

In analyzing this disjuncture, I focus not on students applying to elite postsecondary institutions but the large majority of high school graduates (about 80%) who attend what I call "broad-access postsecondary institutions"—either community colleges or 4-year institutions that accept all qualified applicants. Trends in college readiness, persistence, and completion provide some gratification and much anxiety.

Since the COVID-19 pandemic, postsecondary enrollments have declined along with the percentage of high school graduates who go on to college. Public opinion has also declined in its approval of postsecondary education.[136]

While enrollment has declined, completion rates appear to be rising. According to the National Student Clearinghouse Research Center's Completing College: National and State Reports, the cohort that started college in 2009 had a 6-year completion rate of approximately 53%, whereas the 6-year completion rate for the cohort that started in 2016 was approximately 63%. The highest gains were for students attending public 4-year colleges and private for-profit 4-year colleges. Still, there is a great deal of room for growth in attainment of all types of degrees, with students given 6 years to complete their degree programs graduating 2-year colleges at rates of only 42.2% and graduating public 4-year colleges at a rate of 69.0%. Further, national improvement in 6-year completion rates has been largely slowing cohort by cohort, and the completion rate is essentially flat for traditional-aged students.[137]

As Venezia and I wrote, similar concerns have prompted a great deal of attention and innumerable efforts to address college and career readiness. These efforts have come largely through special initiatives at the higher education level that can be repetitive and draining without producing much in the way of broader impact:

> There has been a large shift in media attention, public policy action, and philanthropic investment in college and career readiness. … Hardly a week goes by that a media outlet does not report on some facet of college and career readiness. Broad access to postsecondary

education institutions has been a major target of concern and analysis. For example, when the Community College Research Center at Columbia University marked its 20th anniversary, it noted that foundations and governmental entities have spent hundreds of millions of dollars on community college reforms. One important outcome of these efforts, however, has been growing awareness that this work is wearing thin as postsecondary institutions are "drowning in initiatives" and experiencing initiative fatigue, much as the K–12 systems have been experiencing for more than two decades.[138]

The Distance Between K–12 and Postsecondary Education

There is now a deep fissure between K–12 and postsecondary education that will be very difficult to overcome. Consequently, secondary school students and teachers receive fewer and weaker signals about what academic preparation students need to succeed in broad-access colleges. As I wrote in 2014, "The role of the senior year in high school as a platform for postsecondary general education is rarely discussed. Nor is there a widely shared conception of postsecondary general education that tightly links the academic content of high schools to the first two years of college."[139] Instead, many students face an eclectic academic muddle in grades 10–14 until they select a college major. In sum, prior to the Common Core, the high school curriculum was largely unmoored from the freshman and sophomore college years or from any continuous vision of general education. Policymakers for the secondary and postsecondary schools worked in separate orbits that rarely interacted. Access, rather than preparation, became the major emphasis of many of the professionals who mediate between the high schools and the colleges: high school counselors, college recruiters, and college admissions and financial aid officers.

Given that Common Core and other new content standards are focused in part on preparing students for success in rigorous postsecondary education, it would make sense not just to initiate reforms at the college level, but for states to establish more explicit linkages between K–12 and postsecondary systems. Smoothing the institutional boundaries between K–12 schools and institutions of higher education (IHEs) could pay huge dividends in helping students feel comfortable in and ready for the expectations of a new environment. These efforts also could ensure that content is scaffolded and articulated across the high school–college divide so that students' transition to college coursework is as seamless as possible.

K–16 Coordination

Various state policy agendas in the 2000s started to focus more explicitly on opportunities to improve college transition, such as through K–16 coordination. Mechanisms for accomplishing better K–16 coordination include:

- aligning standards and curriculum between the high school and college levels;
- better understanding college readiness and providing appropriate student support services both prior to and at the IHE level;
- providing financial support, including incentives for traditionally siloed IHEs to participate in K–16 alignment activities;
- modifying IHE governance structures to more easily work with K–12 institutions;

- improving data systems and structures so student outcomes can be tracked along the K–16 path and into the workforce without interruption, for accountability purposes;
- creating articulation agreements that allow students to take college-level classes in the support of the high school setting; and
- creating guided college pathways—particularly those combining academic and career/technical education that links K–12 and postsecondary education more thoroughly, as in the case of California's powerful Linked Learning example.[140]

Both K–12 and postsecondary education systems must work together to mutually achieve the goal of increasing students' access to, success in, and completion of higher education. Student success will not be achieved if K–12 and postsecondary entities remain siloed.

Alignment of High School and College Standards and Curricula

The Common Core standards and their variants are designed and backwards-mapped from what students need to know and be able to do succeed in postsecondary education. This back-mapping was a priority during the initial conception of the Common Core standards, led by groups like Achieve, Inc. Accordingly, as full implementation of the standards proliferates through the K–12 education system, it is expected that students will be better prepared for the demands of college.

But the fact remains that, years from full implementation of the new standards at the classroom level in most districts, many students are not yet as prepared for the demands of higher education as content standards suggest they should be. Furthermore, collaboration will still need to occur on explicit course articulation. This situation creates a need for K–12 and postsecondary systems to work together, likely at the statewide level, on creating clear scaffolding between courses and setting proficiency standards for state high school end-of-course exams that will determine appropriate college course placement. "The hard work of getting secondary school teachers to work with their higher-education counterparts on subject matter course articulation between the 10th grade and the sophomore year in college has barely begun,"[141] I wrote in 2009, and insufficient progress has been made since. Over the same span, some but not sufficient progress has been made on college course placement from high school exam scores.

Also of note, college entrance exams are in flux in the wake of the pandemic. In 2021, the vast majority of accredited 4-year colleges suspended ACT and SAT requirements,[142] and some large universities and systems such as the California State University system have since announced that they are doing away entirely with standardized college admissions testing.[143] That said, what I wrote in 2009 remains true today: "Broad-access postsecondary institutions rely on their own incoming student placement tests more than admissions scores like the ACT or the SAT."[144] To remove the lack of clarity for incoming college students on what these assessments will cover, IHEs and states must increase their collaboration.

Better Understanding of College Readiness

In a 2018 book chapter, Venezia and I explained, "The established view that academic readiness measured by grades and test scores should be the main target of college readiness programs is currently being augmented to include a wide range of knowledge and skills."[145] These include many of the deeper learning skills associated with Common Core and other new standards-aligned instruction. David Conley developed a model of postsecondary readiness that is both broadly accepted in the field and, importantly, highly nuanced.

Conley's Definition of College and Career Readiness

David Conley defines a college- and career-ready student as follows:

> A college- and career-ready student possesses the content knowledge, strategies, skills, and techniques necessary to be successful in any of a range of postsecondary settings. Success is defined as the ability to complete entry-level courses at a level of performance that is sufficient to enable students to continue to the next courses in their chosen field of study. Not every student needs exactly the same knowledge and skills to be college and career ready. A student's college and career interests help identify the precise knowledge and skills the student needs.

Truly understanding college and career readiness, according to Conley, requires a more nuanced understanding of "readiness" over a broader range of skills and knowledge than is typically used in such definitions. This definition includes:

- key cognitive strategies that include problem formulation, research, interpretation, communication, and precision and accuracy;
- key content knowledge, including the structure of knowledge (e.g., facts and linking ideas), attitudes toward learning content, and technical knowledge and skills;
- key learning techniques, including time management and test-taking skills; and
- key transition knowledge and skills supporting movement from secondary to postsecondary institutions, covering social contexts (aspirations, norms, and culture), institutional procedures (institutional choice), access to finances, transitional cultures, and postsecondary norms.

Source: Conley, D. (2010). *College and career ready: Helping all students succeed beyond high school*. Jossey-Bass. (p. 14).

These concepts have been used by some states to develop their college- and career-readiness standards and by some researchers, school districts, K–12/postsecondary partnership organizations, and others. The key cognitive and content standards are extremely well aligned with the instruction students should receive once new standards implementation makes its way fully into classroom instruction. While there is work to be done to fully realize Conley's vision of college and career readiness, early shifts in the field are promising.

Financial Support for Students and Institutions

Improved financial policies are needed, both for students seeking to attend IHEs and in an incentive context to spur IHEs toward joint work with the K–12 system in order to improve student outcomes.

Though college completion is not the main subject of this paper, the goals of the new standards in promoting college readiness at least tangentially relate to the challenges students have in paying for higher education. Congress recently took action to simplify the federal financial aid forms, but they are still daunting for some parents and students to complete. The loan burden that many students leave college with—whether they graduate or not—is known to be crushing, which further highlights the imperative that K–12 and postsecondary systems work together to lessen the need for remediation and increase the chance that students leave college on time and with degrees that can increase their earning potential.

On the institutional side, federal and state financial aid grants for students are more efficiently spent if the students are sufficiently prepared so that they have at least a reasonable chance for success at the postsecondary level; this further calls for K–12 and postsecondary cooperation. As I wrote in 2008:

> It is less expensive for most broad-access public institutions to recruit new students than to try to support struggling ones. And unlike elementary and secondary education, the spending pattern within postsecondary systems and institutions is mostly a black box, so we do not even know where to start.[146]

There are creative ways to create cross-system finance and other incentives.[147] One approach is to put dollars on the table for joint K–16 work. Those dollars can be made conditional on the creation of a K–16 governance structure and/or on the willingness to undertake a particular action. Dual enrollment in college-level courses by high school students, for example, can be hindered or encouraged by state finance provisions, depending on whether these provisions adequately compensate both K–12 and postsecondary institutions. But such approaches have several disadvantages as well, not the least of which is that these activities tend to remain at the fringes of institutional life and institutional priorities. And when the dollars dry up, the activity goes away.

An alternative is to approach this issue through the lens of accountability, optimally linked with a longitudinal data system that crosses K–12 and postsecondary boundaries. But accountability efforts also vary in quality. For example, some states allocate money to the state's community colleges for keeping students through the first few weeks of a first-year course but require no other student outcomes.

Supportive Governance Structures

Paving the way for better collaboration between K–16 entities has proved to be a tricky process at best, but it is a mission-critical extension of the full and complete implementation of the new K–12 academic standards. Again, if the purpose of the standards is to better prepare students for college and careers, efforts discussed elsewhere in this section—like improving financial structures and incentives, academic articulation, and data sharing—are all crucial, and all require collaborative governance structures. This coordination is a particular area for improvement.

Within education spheres, higher education governance has famously operated in silos. As I have noted in previous work with Andrea Venezia, higher education tends not to foreground "K–16 integrative systems thinking, student-centered practices, or forging connections with K–12 school systems."[148] In that context, working with schools is viewed as a service that receives little credit for tenure and promotions. Additionally, silos between departments and disciplines within higher education institutions impede systemic reform. As such, isolated, temporary boutique programs for bridging K–12 and higher education have been more common than systemic efforts that connect the sectors in systemic ways around common goals.

These disconnects have dictated that most coordinating work goes on at the state level between state college and university systems and the public K–12 education sphere. Yet, having different state legislative committees responsible for higher education and K–12 education in both houses of the legislature for authorization and appropriations limits the potential for integrated policymaking and linked appropriation of funds across the two sectors.

Still, promising practices in certain states provide potential learning for others. For example, the implementation of Common Core standards and the building of state structures to support the standards provided a unique opportunity to strengthen alignment across the K–16 divide in California. In California, all three public postsecondary systems and the private colleges publicly endorsed Common Core. A joint board of K–12 State Board of Education members and members of the Community College State Board was established to better integrate K–12 and community college career pathways. Among other initiatives, the state provided $500 million to fund linked career pathways from grade 10 through community college.[149]

A joint board of K–12 State Board of Education members and members of the Community College State Board was established to better integrate K–12 and community college career pathways.

Data Systems and Accountability

Put simply, high-quality linkable data systems can facilitate needed accountability across the K–12/IHE divide. Venezia and I argue:

> Policymakers should design their accountability systems for both K–12 and higher education to include outcomes that each system cannot possibly deliver alone. The K–12 system, for example, might be held accountable not only for improving student achievement and closing gaps between student subgroups but also for assuring that all of its secondary teachers have deep and substantial knowledge in the subject areas they are teaching. Similarly, higher education can be held accountable for decreasing the number of [freshmen from historically disadvantaged groups] requiring remediation.[150]

The nationally known Data Quality Campaign has a series of goals in place for data system articulation both between the K–12 and IHE systems and between K–12 and the workforce.

Data Quality Campaign Recommendations

As states develop secure, high-quality linkages between K–12 and postsecondary data systems, they can also begin to consider additional ways to increase the value and usability of these critical linkages, such as the following:

- considering what additional data elements may be useful to share to answer key policy questions and support student achievement (e.g., progression for multiple diplomas and completion types, postsecondary GPA [or data that can be used to calculate GPA], other transcript elements, class standing [e.g., junior, sophomore]);
- developing a matching process that is ongoing and iterative;
- developing strong governance that is formalized (e.g., governance body has authority to exist and make decisions, all necessary stakeholders are represented, and governance structure is sustainable);

- making aggregate data (i.e., not data on individual students) resulting from the matches available to researchers and the public; and
- using information resulting from the linkages in discussions with state department of higher education leaders.

Securely linking data between state K–12 and workforce data systems can create a bridge between these agencies as they develop shared career readiness goals for students and the state. Data can help the K–12 agency understand what training and skills students require to meet employers' needs and help the workforce agency make the best use of students' educations. Having high-quality data linkages between K–12 and workforce data systems allows states to answer questions such as the following:

- How do we prepare students for the jobs of today and the jobs of the future?
- What jobs are in demand now, and what jobs will be in demand?
- What skills, credentials, and degrees are required for those jobs?
- What are the workforce outcomes (e.g., employment rates) of career and technical education (CTE) participants?
- Which CTE programs are tied to high-paying and high-demand jobs?
- How do workforce outcomes differ among students from different groups (e.g., rural/urban, race/ethnicity)?
- Are students obtaining certification or employment near where they attended high school?
- What are the employment patterns and workforce outcomes of recent high school graduates during the years after graduation?
- In what industries do graduates work after high school? Are students successfully prepared to work in these industries?

Source: Data Quality Campaign. (2013). *Roadmap for k–12 and postsecondary linkages: Key focus areas to ensure quality implementation*; Data Quality Campaign. (2018). *Roadmap for k–12 and workforce data linkages: Key focus areas to ensure quality implementation*.

Articulation Agreements and Other College Credit Mechanisms

Until the 21st century, the primary effort to bridge K–12 and postsecondary had been the AP program. This program is attached to universities through their dictation of course syllabi and exams, but students take courses with their high school teachers and receive their high school's supports. The International Baccalaureate program also attempts to align secondary and postsecondary curriculum, though its scope in the United States is limited. Through the expansion of earlier pathways to college like dual-enrollment programs and early college high schools, students can receive that same jump toward associate's and bachelor's degrees while remaining officially within the structure and support of the high school environment. Dual enrollment is of particular interest to many community colleges as they try to navigate the revenue lost by steep declines in enrollment precipitated by the pandemic (10% overall in 2020, with a 21% decline in enrollment by first-time students).[151]

Career and technical education (CTE) credentials, according to Manno and Olson, are one way to:

> both certify young people's employability based on key skill sets and serve as building blocks toward associate's and bachelor's degrees. Equally important is connecting young people with adults who can serve as mentors and bridge builders to viable careers. This is particularly important for young people in high-poverty communities who may lack connections to adults in their chosen career fields. In order to avoid tracking young people into jobs based on race, ethnicity, gender, and social class, the new CTE agenda must include strong emphasis on early career exploration so that young people are knowledgeable and empowered to choose pathways that are right for them, rather than having pathways chosen for them.[152]

Guided College Pathways

College pathways are a more holistic, sophisticated mechanism for robust college preparation while students are still in the K–12 system. Venezia and I explain:

> A shift to guided college pathways integrating social supports and academic guidance within and across [K–12 and postsecondary] systems is critical. Informing students of college requirements early in their K–12 experience, identifying their college goal promptly once they arrive on a community college campus, and then smoothing their way through to that goal using various support systems require coordinated efforts rather than piecemeal programs. Guided pathways should include high school career technical education courses that are designed to be linked to specific industries and community college courses and internships.

This type of shift is not easy and requires a great deal of cross-collaboration from the various governance and logistical mechanisms mentioned previously. It also requires concerted effort to provide rigorous core academic courses that align with the career theme of the pathway, so as not to segregate students out of college-bound tracks from the start. As Venezia and I warn:

> Moving from programmatic to systemic policies that link across systems requires the kinds of communication, collaboration, governance, and data that are difficult to develop and sustain, especially so when cross-system work is typically a voluntary activity with few clear incentives, stable finances, or accountability mechanisms.

Still, with patience for the level of effort that strong guided college and career pathways require, the outcomes can be promising. The Linked Learning Pathways program in California presents one possible model.[153]

Linked Learning Pathways in California: Structure and Findings From a Multiyear Study

Effective secondary-to-postsecondary pathways, including all those in the Linked Learning program situated in numerous districts across California, combine four elements designed to collectively and congruently advance student success:

1. **Rigorous Academics.** An academic core that includes college preparatory English, math, science, and history.
2. **Career-Based Learning in the Classroom.** A challenging career-based component of three or more courses to help students gain the knowledge and skills that can give them a head start on a successful career.
3. **Work-Based Learning in Real-World Workplaces.** A series of work-based learning opportunities that begin with mentoring and job shadowing and evolve into intensive internships, school-based enterprises, or virtual apprenticeships.
4. **Integrated Student Supports.** Services including counseling and supplemental instruction in reading, writing, and math that help students master both academic and technical learning.

A multiyear study by SRI International asked California high school seniors to report on the extent to which they felt their high school had helped them improve a range of skills and behaviors. On the survey, pathway students were more likely than comparison students to strongly agree that high school had helped them develop a wide range of skills, including the following:

- **Collaboration.** Develop the skills necessary to interact effectively with people from different backgrounds (59% vs. 49%), with adults outside their family (40% vs. 29%), and in professional settings (54% vs. 33%), as well as to collaborate in a group to achieve a shared goal (56% vs. 36%).
- **Communication.** Improve their ability to present information to an audience, whether by making a public presentation or performing in front of a group (52% vs. 30%), or by speaking in public (43% vs. 27%).
- **Judgment.** Develop their ability to use information to make good decisions (55% vs. 38%), conduct online searches to answer a question (52% vs. 36%), summarize information from multiple sources (45% vs. 32%), and judge whether they can trust the results of an online search (42% vs. 25%).
- **Perseverance.** Improve their ability to accept responsibility for the quality of their work (63% vs. 51%), believe they can reach their goals through hard work (55% vs. 45%), and believe they can learn something really difficult if they try (44% vs. 28%).
- **Organization.** Develop useful self-management skills, such as setting goals for doing well in their classes (35% vs. 27%), developing a system for organizing school work (31% vs. 25%), and managing their time in order to get all their work done (25% vs. 21%).

- **Career Preparation.** Consistent with other SRI evaluation findings from previous years, the large majority of SRI surveyed pathway seniors agreed or strongly agreed that their high school experience had prepared them for a job or career of their choice (66%). Similarly, 12th-grade pathway students in focus groups credited their high school experience with equipping them with 21st-century knowledge and skills, productive dispositions and behaviors, technical knowledge and skills, and career navigation skills to help them succeed in a broad range of postsecondary options.

Source: Guha, R., Caspary, K., Stites, R., Padilla, C., Arshan ... Adelman, N. (2014). *Taking stock of the California Linked Learning District Initiative: Fifth-year evaluation report*. SRI International.

Whole Child Policies for Standards-Aligned Instruction

Full implementation of the new standards requires attending to the outside-of-school factors affecting student achievement and adopting a broader vision for student learning. This approach means not only expanding the focus of curricula beyond the K–12 years so that students are more prepared for what comes next but also deepening the range of student needs that schools are equipped to meet during the K–12 years. (Though preschool is outside the scope of this paper, it also means weaving in early childhood supports.) To be clear, this is not an easy task, but it is one that could pay huge dividends in smoothing the path for students to learn standards-aligned material. As a 2021 Learning Policy Institute and Turnaround for Children report established:

> For the past century, the U.S. education system has primarily focused on the delivery of subject matter content—especially in mathematics and English language arts—using approaches that presume a bell curve of student ability, with instruction targeted to a mythical "average student." It is a system that was not designed to unlock the potential in each and every child or to develop the whole child across the multiple domains of development. The resulting structures and practices in many schools are not adaptable to the variation in how different students learn. They do not use differentiated and personalized approaches, and they are not attuned to the development of deeper learning skills or to the habits and mindsets that support the creativity and resilience demanded in the 21st century.[154]

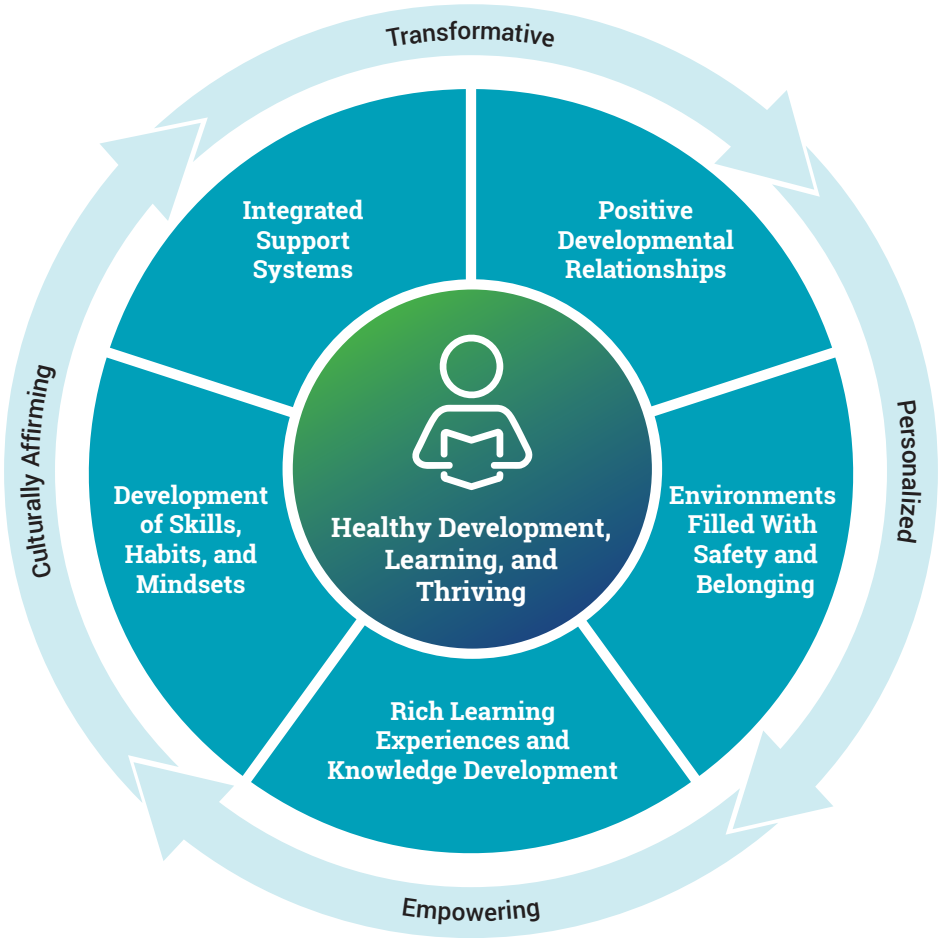
An example of how to conceptualize this broader, whole child vision for evidence-based practices that create the right conditions for learning is indicated in Figure 5. The five features are building blocks for effective learning:

- **Positive developmental relationships** are the foundation for learning. They connect caring and attachment with adult guidance that enables children to learn skills, grow in their competence and confidence, and develop their agency and capacity for self-direction, providing a pathway to motivation, self-efficacy, learning, and further growth.

- **Environments filled with safety and belonging** create learning communities that have shared values and communicate worth. Children are more able to learn and take risks when they feel not only physically safe with consistent routines and order but also emotionally and identity safe, such that they know they are a valued part of the community they are in.

- **Rich learning experiences and knowledge development** engage students in authentic activities in which they work collaboratively with peers to deepen their understanding and to transfer knowledge and skills to new contexts and problems. Because learning processes are very individual, teachers need opportunities and tools to come to know students' experiences and thinking well, and educators should have flexibility to accommodate students' distinctive pathways to learning, as well as their areas of significant talent and interest.
- **Development of social, emotional, and cognitive skills, habits, and mindsets**—alongside and integrated with content knowledge—enables students to become engaged, effective learners. These skills—including executive function, growth mindset, social awareness, resilience and perseverance, metacognition, and self-direction—can and should be taught, modeled, and practiced just like traditional academic skills.
- **Integrated support systems** remove obstacles to learning by ensuring that health, mental health, and social service supports are readily available, along with opportunities to extend learning and build on interests and passions.[155]

Figure 5. Guiding Principles for Equitable Whole Child Design



Source: Learning Policy Institute & Turnaround for Children. (2021). *Design principles for schools: Putting the science of learning and development into action*.

To be sure, making the adjustments to teaching, learning, and broader systems of support that align with whole child principles is a challenging task and one that requires even more deep and sustained professional development for teachers and other staff. Of the vision conceptualized in Figure 5, rich learning experiences and knowledge development align nicely with the teacher practices called for by the Common Core and its state-level variants, the Next Generation Science Standards, and other new standards—but as we know, systems to support teachers to fully realize these standards are still being built. These systems should incorporate relevant best practices in capacity-building for school and district staff.

Zooming out, schools—particularly teachers—cannot do it all and need more support from integrated state policies that oppose out-of-school impediments. State-funded community schools, which draw on services from a variety of community agencies to best serve the whole child, are one promising endeavor, though broader systemic change is also needed in supporting children to realize their potential. As established in the introduction to this report, community schools provide evidence-based proof of concept that a school can tackle more of the roles the public expects of them. However, the community schools model is just beginning to proliferate in the United States. It is effective precisely because it acknowledges teachers cannot be everything to everyone and provides the appropriate supports that "complement and supplement" teachers' work so that teachers can focus on classroom instruction.[156] Traditional schools may not have the same breadth or depth of supports as community schools, but they would be well served to look to the community schools approach to see where they can build strategic partnerships with local organizations and service providers to better address the needs of the whole child.

Applying Lessons From Reforms That Have Taken Hold

One complication in implementing state systemic standards-based reform is that each state seeks its own specific path, shaped by its leaders, its culture, its history, and its political prospects for classroom change. Accordingly, each state needs to devise its own strategies for how to best build and sustain the infrastructure for a dramatic upgrade in local instructional capacity. This process needs to start with a vision for a statewide professional learning system. Each state must provide its own action plan and architecture that is adapted to its specific context. For example, the Mississippi State Department of Education provided professional development and state-funded coaches based on the science of reading for all early-grade teachers and administrators.[157]

State plans should include the essential building blocks, obstacles to be overcome, and coherent state policies to accomplish the instructional goals of standards-based reform. Even states that are in the midst of piecemeal improvements to instructional capacity-building and the structures that sustain it would benefit from this broader thinking and planning. The objective should be to create a lasting education infrastructure, similar to the federal interstate highway system of the 1950s or the complex and multifaceted power grid of today.

But highways and power grids are physical infrastructure, and rigorous, relevant teaching practice and instruction are mostly challenges of human capacity—specifically, a lack of well-supported learning opportunities for teachers. Cynthia E. Coburn provides a framework for scaling up educator

capacity-building that includes dimensions of spread, depth, ownership by local educators, and sustainability. She contends too much emphasis is placed on spreading to more schools and not enough is given to the other three dimensions.[158]

Turning recommendations into reality will require significant funding in human infrastructure investments, with most of this financial support coming from federal and state budgets. States and districts pass large bond measures to construct schools but do not invest enough or over the long term in the human potential for truly excellent standards-aligned instruction. The state vision for teaching capacity-building must go deeper, be broader, and be sustained longer than anything the United States has tried previously. It would behoove states, and indeed the nation writ large, to set ambitious goals for the proportion of its educators to be part of a sustained professional learning system aligned with state academic standards.

States need a strategic and tactical road map to reach classrooms all across the state, from PreK to grade 12. This road map would start with a declaration that subject matter infrastructure and local capacity-building are major state roles, similar to the current state role in preservice teacher and principal preparation and induction. Consequently, this vision would not be a return to a reliance on state categorical programs. States have never acknowledged or declared that the state role extends this far, despite decades of many effective small-scale efforts, like the University of California Mathematics Project and California's Instructional Leadership Corps. One state goal could be to reach 80% of the teachers statewide, as was done in Ontario, Canada. This commitment would be costly, but the alternative is to repeat what happened in the past. Most states rely too much on accountability and not enough on building the capacity of educators to attain the targets of state accountability policies.

States need a strategic and tactical road map to reach classrooms all across the state, from PreK to grade 12.

The road map would include the many moving parts that must be integrated into the subject matter teaching. States would take account of the full range of educational organizations to realize the extent to which these organizations are supported and constrained by other types of actors, including key suppliers of instruction, resources, and products; regulatory agencies; and local school systems that employ teachers, teacher aides, coaches, curriculum developers, and administrators. Large states would need a regional approach that includes but transcends their current regional entities. They must invest more in training state personnel. The role of the district must be rethought, including how to develop teaching capacity in districts and rely less on vendors that come and go. Some states have a lot of resources and organizations to improve subject matter teaching now, but there is no overall strategy to utilize and blend them together.

States could begin with a small working group of 10–15 people that would include all levels of education policy and practice from the federal to school levels, including consultants with international experience. The working group would include highly experienced individuals with a good grasp of the historical evolution of state subject matter instruction. The group would take the first steps to unpack the complex issues and organizational field previously outlined. It would start with understanding the key concepts, actors, organizations, and elements that need to be in the road map to implementation of the state standards. The group would consider new developments like AI and tested methods like family

engagement. It would then specify the tasks that a larger group would take to complete the road map and involve public participation. The initial working group would meet with state and local public officials to seek their support for this next phase.

While no external example will be entirely applicable for any given state, many relevant and context-specific lessons can be gleaned by looking elsewhere for successful approaches to emulate, such as Massachusetts's approach to standards-based reform and Louisiana's statewide system, both of which are described later in this section. Other countries' models—like those in the Canadian province of Ontario, the Australian state of Victoria, South Korea, Singapore, and Finland—can help U.S. states conceptualize powerful state infrastructure for educator capacity-building. (The resources provided in the endnotes are a helpful first place to look for additional details on these cases.)[159] These countries have relied on large-scale change rather than nudges or niches to improve education capacity.[160]

Ontario, Canada

Ontario, Canada, has undertaken a massive expansion of state teaching capacity linked to state standards at a scale that has never been sustained before in the United States.[161] In Ontario, the local districts have been financed by the province to build up district and school instructional capacity.[162] In 2004, the Government of Ontario provided 3 years of funding to district school boards to develop locally led solutions for supporting at-risk students.[163] Among other efforts, Ontario's state education agency:

- hired 50 local school leaders to rotate through districts to translate state policy concerning academic issues to district officials and school leaders, with a particular focus on how state policy relates to classroom instruction;
- formed six regional entities and local networks of districts all over Ontario to help each other plan and implement changes to how they deliver and support instruction;
- funded each district to hire a student success leader; and
- recruited academics to study specific strategies and components for professional learning and state and local instructional change.

Gallagher, Malloy, and Ryerson provide specific operational details concerning Ontario's large-scale implementation strategy and tactics.[164] In the United States, districts tend to look to outside vendors to do many of these tasks, but this approach is less likely to lead to persistence and long-term commitment by local districts and schools. Though Ontario is physically vast, professional development reached the entire province. Further, in actually implementing capacity-building efforts for teachers, Ontario districts were consistent in following the key elements of professional development that are shown by research to impact instruction and student learning (see High-Quality Professional Development: The Consensus).[165] Among other features, this professional development is sustained, iterative, and content-focused; models effective practice; and provides coaching and expert support.

Victoria, Australia

Australia developed a new set of curriculum standards analogous in many ways to the Common Core, and many states have been engaged in rigorous teacher preparation, induction, and professional capacity-building efforts to implement these standards with fidelity to state and national goals.[166] The standards are in individual content areas and include cross-cutting concepts. According to a 2017 policy document published by the Victoria Department of Education and Training:

> Victoria ... has developed achievement standards and related mandated reporting for the four capabilities outlined in the Australian curriculum of critical and creative thinking, personal and social development, ethical understanding, and intercultural understanding for all Victorian school students. Bringing a whole child framework to the effort, the new Victorian curriculum recognizes that students need to develop:
>
> - core skills (such as literacy, numeracy, and science),
> - 21st-century skills (such as resilience and critical and creative thinking) to equip them to operate effectively in a rapidly changing world, and
> - holistic skills (such as arts and physical activities).[167]

To this end, Victorian officials have worked to improve teaching quality in the state. Among other measures, the state:

- increased the criteria for entry into state teacher education programs;
- reduced the quantity and time commitment of scheduled duties for first-year teachers so they can "focus on improving and cementing strong teaching practices";
- developed a program for experienced teachers to serve as mentors to new teachers for 2 years;
- worked to create a collaborative adult learning culture;
- created a learning specialist role in each school, analogous to a master teacher, which "will provide promotion opportunities for highly skilled teachers and build excellence among their peers"; and
- introduced professional learning communities to foster collaboration in service of improved teacher practice.[168]

Capacity-building was also enlarged through the Victorian Academy of Teaching and Leadership, in which teacher leaders help other teachers, as well as a related principals' academy.

Victoria has also made strides in creating a data system to "[enhance] assessment of learning practice and the monitoring of student improvement over time in the government school sector." This Insight Assessment platform draws on multiple assessment instruments and enables the tracking of student growth through the primary and secondary school systems. According to state officials, "Victoria sees the further development of digital assessment tools as a priority for supporting the improvement of student learning outcomes."[169]

Victoria's leaders strive to create a major school culture shift that does not rely on local compliance, but rather on local practices owned at the school level. According to Fullan and Gallagher, when Victorian officials developed the state's Common Core–analogous standards in 2014, state officials had hoped that schools would be able to implement the standards without significant assistance. By a few years later, state officials realized that educators were unclear about the new standards and insufficiently involved in their implementation. State officials thus began to consider how to better involve teachers and principals in school improvement activities to guide stronger instruction.[170]

In service of these goals, the state produced a compendium of resources on 10 teaching strategies that they defined as high-impact—setting goals, structuring lessons, explicit teaching, worked examples, collaborative learning, multiple exposures, questioning, feedback, metacognitive strategies, and differentiated teaching—along with a related literacy framework.[171] This information was presented at numerous large-scale conferences for teachers and principals. The state also helped spread best practices for professional learning communities through regional offices, and state-funded evaluators helped refine the professional learning communities concept for local contexts. Schools were asked to revise older school improvement plans, with a great deal of support as well as some pressure from the state government. Schools were paired to learn from each other.

Fullan and Gallagher reviewed Victoria's initial progress in 2019 and observed:

> Our view is that Victoria has developed a very powerful and sophisticated infrastructure to support reform … but there is still considerable work to be done to move from the infrastructure as something to be implemented to a system wide reform in which school staff own the reforms within their schools and classrooms.[172]

The authors stress that Victoria is creating a learning system where all state and local levels work separately and together rather than relying on the language of implementation by merely writing a plan. The state is proceeding with strong attention to an effective pedagogical core of classroom instruction.[173]

Other International Examples

The Learning Policy Institute screened U.S. and international literature for high-quality studies that found professional development models that changed teacher practice and enabled student learning gains. LPI found that these models had some features in common: They were based in the curriculum content and in active learning and supported collaboration on the job. Also, successful professional development offered models of the practices with lessons, assignments, and coaching extended over time (typically at least 50 hours of interaction over a number of months). There were iterative opportunities to try out new practices in the classroom and to reflect on and refine them. In addition, these efforts were almost always accompanied by in-person or online coaching, sometimes using classroom videos as the grist for those conversations. Finally, they were of a sustained duration.[174]

International studies note conditions that enable principles of high-quality learning identified by the Learning Policy Institute. In South Korea, teachers' time teaching students is half as many hours as teachers in the United States. Instruction consumes 80% of teachers' time. Almost all of U.S. teachers' planning, grading, and meeting with parents takes place after school. In South Korea, these activities take place during the school day. In addition, shared planning among teachers and professional learning are

part of the school day. South Korean teachers are provided shared office space during their out-of-class time. In these offices, teachers share lesson plans and ideas, with focused help for new teachers. New teachers have a 6-month induction program. Professional development courses are widespread in South Korea. These courses are fully supported by the national Ministry of Education and local education offices.[175] U.S. teachers have much less time during the school day to work together, reflect on their practice, and receive help on teaching state academic standards. These findings suggest that structural change in the school schedules for teachers is needed to build capacity to teach effectively.

In Singapore, the government pays for experienced teacher mentors to assist new teachers. A national institute provides classes to new teachers in classroom management, reflective practices, and assessment. Singapore has a government-funded national teachers network that encourages collaboration and reflection on instructional practice. The network uses discussions, action research, and learning circles that enable teachers to produce knowledge and not just receive knowledge. District-level human development personnel help plan teacher workshops.[176]

In Finland, teacher preparation includes problem-solving groups that emphasize continual reflection, evaluation, and problem-solving. Experienced teachers are provided with weekly time for joint planning and curriculum development as well as time for parent participation. Teachers then analyze the impact of new instructional classroom approaches.[177]

The State of Massachusetts

Massachusetts undertook standards-based reform in concert with progressive school funding reforms beginning in 1993.[178] The overhaul of school funding occurred in response to a state lawsuit challenging inequality across school districts tied to property wealth. The school finance formula adopted in 1993 as part of the state's Education Reform Act stimulated substantially greater investments in underresourced schools through a weighted student formula that added funding increments based on the proportions of students from low-income families and English learners in a district. The state also made a substantial investment in early childhood education.

This progressive approach helped boost educational investments and achievement as the state undertook a comprehensive reform featuring new standards and assessments demanding more intellectually ambitious teaching and learning. In addition to much greater and more equitable funding to schools, the initiatives included statewide standards for students, educators, schools, and districts; new curriculum frameworks to guide instruction and state assessments; expanded learning time in core content areas; investments in technology; stronger licensing requirements for teachers; and more access to high-quality learning opportunities for teachers and school leaders.

In 1994, Massachusetts adopted a plan for professional development, the first in state history. This plan led to the establishment of intensive summer institutes in content areas such as math and science, dedicated funding to districts to support professional development for every teacher, requirements for recertification based on continuing education, and a new set of standards and expectations for local evaluation. The Attracting Excellence to Teaching Program was created to subsidize preparation for qualified entrants into teaching.

By 2002, Massachusetts had dramatically improved overall achievement and sharply reduced its achievement gap. It has maintained strong performance, ranking #1 in the country in student achievement on the National Assessment of Educational Progress in all the years since. Ongoing standards-based reform efforts have upgraded the standards to incorporate the Common Core and continued to evolve the curriculum and assessment system, while continuing to invest in professional development for teaching the standards and using data to guide improvement.[179]

The State of Louisiana

Louisiana offers an informative example of how to create a coherent instructional system. According to Polikoff:

> Recent and ongoing research makes it clear that the state views curriculum as the linchpin of their instructional reform efforts. A careful study of Louisiana's approach offers ideas for how states can profitably involve themselves in supporting districts and educators to make better curriculum choices. And the research on Louisiana's efforts suggests that they are paying off in terms of teachers' instruction.[180]

Louisiana uses annotated rubrics to evaluate vendors' instructional materials. For each proposed material, the state provides detailed evaluations for districts to use in their local adoption decisions. These evaluations include detailed state analysis and ratings on the strengths and weaknesses of the various materials. The state recommends only six vendors' materials for each subject matter and will develop its own materials if not enough high-quality materials are submitted by vendors. Surveys by the RAND Corporation have demonstrated over numerous years that Louisiana teachers report implementing the adopted materials.[181]

Says Pondiscio, who wrote about Louisiana's efforts to launch coherent curricula and instructional reforms in an environment heavy on local control:

> Significantly, all this work was done *with* teachers, not *to* them. The [Louisiana Department of Education] created a network of teacher leaders who were handpicked for demonstrated teaching and leadership ability, drawn from every region of the state and different grade levels. When the state created the rubrics for the curriculum, it was the teachers who did the evaluations.[182]

Louisiana also provides a strong example with respect to state leadership and teacher capacity-building. Louisiana's big-picture strategy has been to focus on instruction by building teaching capacity within districts, but not to try to manage instruction directly at the state level. Instead, the state improvement strategy is locally driven within some state parameters and with some state assistance.

To reach the vast majority of teachers, the state funded and trained 7,000 teacher leaders—2 from every school—to help other teachers with the use of materials the state recommends and with broader strategies for teaching to the new standards. The state provided support for schools, including locally awarded certificates for school mentors and teacher content leaders—positions that each took 1 year of preparation. These certified educators have helped structure professional learning groups at each school and improved teacher coaching opportunities. The state then created a higher-quality market pool

of vendors to help these school-based capacity-builders and teachers. According to the RAND surveys, teachers reported higher knowledge about the standards and how to teach to them than teachers in other states.[183]

State officials used a similar process for narrowing down the pool of professional development providers they had employed. They determined which curricular materials would receive "Tier 1" status and only recommended vendors that could provide training specifically aligned to those curricula. This practice was unique according to RAND researchers, who, per Pondiscio, "did not find other clear examples of state departments of education working to make explicit connections between professional development providers and specific curricula."[184]

Recently, the Louisiana approach has been amplified by the Council of Chief State School Officers. That organization is supporting a High-Quality Instructional Materials and Professional Development Network that is made up of 12 states and based heavily on Louisiana's experience. In addition to Louisiana, the participating states include Arkansas, Delaware, Kentucky, Massachusetts, Mississippi, Nebraska, New Mexico, Ohio, Rhode Island, Tennessee, and Texas. The network, per Cohen and Slover, is:

> encouraging districts to adopt high-quality instructional materials aligned to state standards and provide teachers with professional development based on those materials, with the goal of engaging every student in meaningful grade-level instruction every day—regardless of whether the network members are "adoption" states that centrally approve and recommend curricula, or non-adoption states working to put stronger materials in the hands of local educators.[185]

Promisingly, the majority of states in the High-Quality Instructional Materials and Professional Development Network have a higher proportion of teachers than the national average using at least one curriculum that is fully aligned with their state's instructional standards. According to RAND's 2021 American Instructional Resources Survey, in the 2020–21 academic year, 10 such states had higher proportions of teachers than the national average reporting use of fully aligned curricula in math and 8 such states in English language arts.[186] Louisiana is currently seeking to develop through-course assessments in English language arts that are aligned to the standards and the materials so that the entire system is internally reinforcing.

Zooming Out: Priorities for Future Case Studies

In broader terms, teachers and instructional leaders understandably want to know what practices are effective with their particular students. Teachers are curious about what works given a specific school's strengths and weaknesses, without negative impact to other instructional outcomes. But studies based on significant pupil attainment effect sizes from a few local areas are of limited utility without further scale-up analyses. These analyses are especially important given the variation of implementation within and between schools and given the necessarily large and diverse scale of statewide education reform. Concurrently, then, the preparation of policy officials and researchers in higher education should emphasize more the complexities of the implementation of education policy. However, case studies can provide insight and guidance as starting points for designing more effective policies.

A Constituency for Systemic Standards-Based Reform: Ensuring Sustained Progress

After analyzing the systemic standards-based reform work that has occurred in the United States since the concept was first introduced, a key question lingers: Why have so few states and districts thoroughly pursued systemic standards-based instructional improvement?

One answer lies in the absence of a dedicated constituency for standards-based reform. At the outset of this paper, I stressed that reforms are far less likely to last and spread widely without meeting three essential criteria: They must leave some structural or organizational residue, be easy to monitor, and be supported by a highly organized and effective constituency. Systemic standards-based reform that makes its way into the classroom meets two of these three essential conditions. However, the constituency and political organization is lacking to galvanize a dramatically broader conception and spread of new and intensive educator learning. It is this level of learning that is necessary to meet the higher academic standards adopted by state governments.

Challenges to Creating an Effective Constituency

Garnering support through a combination of teacher interest groups and public advocacy would help motivate states and districts to continue to build supportive structures and capacity for standards implementation. Of specific concern, there is no constituency that is organized around models to implement a massive scale-up of professional development. School administrators rarely prioritize funding for capacity-building in their strategic planning proposals, though the money needs to come from somewhere. There is rarely an influential organized parent group focused on teacher and school leadership capacity for general academic instructional change across the curriculum. States need to take responsibility and provide comprehensive funding for ongoing teacher and principal development, for preparation to ensure that teachers are certified before assuming classroom responsibility. Currently, most states have no major role or statutory responsibility for the ongoing education of teachers or administrators once they have exited preparation programs.

The political resistance to Common Core in its early stages and current challenges with building patience and understanding demonstrate the need to encourage more democratic participation and public engagement. A book titled *Public Engagement for Public Education: Joining Forces to Revitalize Democracy and Equalize Schools*, edited by Marion Orr and John Rogers, provides an excellent initial resource for how to approach this important work, with a particular focus on increasing the representation and voice of groups that traditionally have not had an equitable seat at the table.[187] Teacher unions, which have experience in these roles, would be an especially powerful advocate and builder of political power. The California Teachers Association is an interesting example, having provided funding for the Instructional Leadership Corps described in Implementing the New State Content Standards: A Deep Dive in California. Perhaps the California Teachers Association or unions that share their focus on professional development could be persuaded that a push toward constituency-building would be a logical next step in this work.

Moreover, going back to the 19th century, the United States has a history of teaching as a profession with low pay and low prestige. This deeply embedded cultural tradition must be changed so that teaching is recognized and treated as a respected career and teachers have support to become well prepared and

well supported throughout their tenure. A new political coalition must be created in part to overcome these traditional structural barriers to teacher preparation.[188] State superintendents as well as state and local school boards must lead and be a part of the solution.

Initial Thoughts on a New Political Coalition

A new political coalition with strong bottom-up components must be organized and mobilized to ensure continued development of the basic policies to address this new and enlarged vision of state systemic instructional reform. This mobilization will require broader coalitions with many groups that support the full range of improving the well-being of children, from preschool through college.

This mobilization will require broader coalitions with many groups that support the full range of improving the well-being of children, from preschool through college.

The spread of state standards in the 1990s and the passage of the federal law No Child Left Behind in 2001 included business groups as a key consistency. The business sector was part of a powerful nationwide political movement, but business is not involved now. Somehow business must be attracted to renew its support for standards implementation.

The first stage in creating a bottom-up coalition is to get the holistic new vision for what systemic standards-based reform can look like onto the policy agenda, focusing on instructional capacity rather than stopping at standards and assessments. As a vast amount of instructional capacity-building in the United States is provided by nonprofit and for-profit vendors, it is important to view these actors as part of this broader ecosystem for instructional improvement.[189]

Kingdon suggests that a promising policy window opens when four phenomena converge to place specific reforms on the policy agenda:

1. A problem is recognized.
2. A solution is developed.
3. The political environment makes it the right time.
4. Political constraints are not severe.[190]

With the problem defined and the solution in progress, but needing additional support to be carried out, the first two streams are seemingly in place. In terms of the latter two streams, the post-COVID-19 era may be the right time to accomplish a more effective state reform agenda. In *Restarting and Reinventing School: Learning in the Time of COVID and Beyond*, the Learning Policy Institute situates the current context—where so many aspects of schooling we took as fixed are now up for grabs—as a watershed opportunity for educational reform:

> In a historical moment when we have more knowledge about human development and learning, when society and the economy demand a more challenging set of skills, and when—at least in our rhetoric—there is a greater social commitment to equitable education, it is time to use the huge disruptions caused by this pandemic to reinvent our systems of education. The question is: How can we harness these understandings as we necessarily redesign school?[191]

Conclusion: A Time to Advance Standards-Based Reforms

Above all, this paper argues that this is not the time to give up on state standards. Rather it is a time to try harder, and there is no better time than now to proceed. The evidence from partial and flawed classroom implementation of academic standards over many decades provides good guidance for the future.

In general, and particularly when test scores are being discussed, much more focus is required on whether students have yet had the opportunity to learn complex curriculum changes like those required by the Common Core standards and their state-level variants. As California was transforming its funding system with the Local Control Funding Formula (LCFF), it also adopted eight state priorities that are part of the accountability and improvement system, each of which has to be reported on and taken into account in Local Control and Accountability Plans. One of these priorities is implementation of the Common Core standards.

Notably, standards-aligned assessments in states like California are beginning to show some promising progress. This progress is significant because the younger the student, the more likely they are to have had multiple years of scaffolded, standards-aligned instruction from the beginning of their experience in elementary school, as is intended by the standards. Specifically, and promisingly, from 2015 to 2019, California 3rd-graders had 10-percentage-point increases in the proportion of students meeting or exceeding standards in both reading (39% to 49%) and math (40% to 50%).[192]

Although some of the gains for these particular cohorts were set back by pandemic-associated learning loss,[193] the logic still stands that students whose education has more completely consisted of well-supported, standards-aligned instruction are likely to show the highest levels of proficiency on standards-aligned assessments. According to assessment specialist Edward Haertel, "The switch to Common Core happened after many middle and high school students were past the early grades. That our younger learners who have experienced standards-aligned instruction since kindergarten are improving faster is encouraging."[194] And with teachers building capacity over time to teach more completely to the standards, test scores would be further expected to increase.

On the National Assessment of Educational Progress, California 3rd-graders were among those in the three states that had among the largest gains in the nation from 2015 to 2019, and the state's 8th-graders had the largest gains in the nation. As testament to the staying power of the effort—and to the investments of new funds for both LCFF and for professional development during the pandemic—California did not lose ground in reading on the National Assessment of Educational Progress between 2019 and 2022, as most states did. Indeed, Los Angeles 8th-graders saw the largest reading gains in the country during these years; San Diego remained the highest-achieving urban district in the nation in reading in 2022.[195]

Standards alone are merely statements of academic intention; they do not move off the paper or out of legislative language and into classroom teaching through a magical process. Successful full classroom-level implementation of the rich content standards introduced in the 2010s in particular requires steady long-term work at a scale that states have yet to attain. Yet the existing body of research claiming very small effects from Common Core was largely conducted between 2013 and 2015, when most states had hardly begun to implement new standards.[196] Even the more recent research fails to capture full implementation

of the standards and is nowhere close to reflecting the outcomes of students who experience full standards implementation over multiple years. Further, state standards implementation was in the fourth inning of a nine-inning baseball game that was interrupted by a COVID-19 rainstorm in 2020.

Despite this incomplete implementation, early promise, and evolving context, some critics claim we should give up on state academic standards and move on to something else. Tom Loveless, for example, argues that we should retreat to experiments in micro-teaching for small elements of the curriculum like fractions in 4th grade.[197] Others offer no specific alternative but express concerns about outcomes on state standards-aligned assessments by blaming the assessments themselves and the standards they accompany—without reflecting that low performance may be due to more accurate measurement of gaps between current student performance and the skills and knowledge higher education and the economy call for.

Building a dedicated constituency would help to encourage patience for full implementation of the instructional shifts necessitated by the new standards, though it is not the only answer. There is already encouraging evidence of the standards' staying power. One especially important recent trend is that close variants of the Common Core standards have now persisted for over a decade in more than 40 states. These variants of the Common Core standards have thus far overcome political resistance, with explicit opponents having largely moved on to other issues, and the new standards have become deeply embedded in state policies. The resulting likely political endurance of standards-based reform is summarized by McDonnell and Weatherford, who wrote in 2020:

> Successfully challenging an existing policy regime requires an alternative policy idea that provides a more compelling understanding of the policy problem and offers a potentially effective solution that is politically administratively feasible. Advocates have to be able to communicate this alternative in simple language to a wide range of audiences. … Based on the history of standards-based reform, an alternative to it would need to demonstrate a direct link to improving and equalizing students' achievement, [and] make schooling processes and outcomes transparent and publicly accountable.[198]

In the case of the Common Core standards and their variants, the critics have no broader theory of action on how removing or lowering standards will improve education. Further, in terms of feasibility, advocates to replace standards-based reforms need to demonstrate that an alternative would not cost significantly more than the status quo unless that alternative was demonstrably superior to the current system.

Ultimately, a wide range of structural and organizational changes is required for a state to scaffold its systems in support of Common Core and other new rigorous academic content standards. Building and implementing these systems thoroughly and well, and providing sufficient capacity-building for teachers in making major instructional shifts, is more realistically implemented over a decade or more rather than in a matter of a few years. Exogenous events like the COVID-19 pandemic and fluctuations in the stability of the base for school funding have understandably slowed progress thus far, and it is only reasonable to expect that other outside events may intrude in the future. Any constituency that can be developed to further that message will help build tolerance for implementation over a longer-than-ideal, but practical, time horizon. In essence, history demonstrates here—as it has again and again—that successful state education policymaking requires patience, persistence, humility, and continuous improvement.

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