TRANSFORMING EDUCATION:

Delivering on Our Promise to Every Child

CCSSO STRATEGIC INITIATIVES DISCUSSION DOCUMENT

March 2009

THE COUNCIL OF CHIEF STATE SCHOOL OFFICERS

The Council of Chief State School Officers (CCSSO) is a nonpartisan, nationwide, nonprofit organization of public officials who head departments of elementary and secondary education in the states, the District of Columbia, the Department of Defense Education Activity, and five U.S. extra-state jurisdictions. CCSSO provides leadership, advocacy, and technical assistance on major educational issues. The Council seeks member consensus on major educational issues and expresses their views to civic and professional organizations, federal agencies, Congress, and the public.

TRANSFORMING EDUCATION:
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It is imperative that we transform the national education agenda so that each and every child may succeed. You, as members, thought partners, and staff of CCSSO, have worked in collaboration to identify four areas of focus that will lead the systems change necessary for a true transformation of teaching and learning. Those areas are Next Generation Learning; Standards, Assessment, and Accountability; System of Educator Development; and Comprehensive Data Systems.

After receiving feedback on initial white papers in each of the four areas back in November 2008, we present you with this discussion document. The main purpose and intention of this document is to fuel discussion, establish a rationale for why we have chosen these four areas of work, highlight the connections among the areas, and outline next steps. The content contained in this document will be used to shape and inform our specific programmatic work, advocacy agenda, fundraising efforts, and other communications materials.

Since we are viewing this document as a "work in progress," we have established ways in which you can continue to provide us guidance on our future efforts. First, CCSSO President Ken James has established chief committees for each of the four areas. Each chief state school officer has been appointed to serve on one of the committees, which are designed in such a way that Council staff will have ready access to chief leadership in moving each of the strategic areas forward. Secondly, we are issuing an open invitation and will be providing opportunities for continued and informal guidance as we develop and nurture these ideas. And finally, we encourage you to reach out to the committee co-chairs, staff liaisons, or CCSSO Director of Strategy and Implementation Melissa Johnston (melissaj@ccsso.org) with your insights.

We would like to thank our members and partners for their feedback and the following contributors/editors for making this document possible: Linda Pittenger, John Tanner, Kathleen Paliokas, Christopher Lohse, Lois Adams-Rodgers, Karen Bruett, Marty Bush, Doug Christensen, Lonnie Harp, Melissa Johnston, Chris Minnich, Scott Montgomery, Gene Wilhoit, and Susan Zelman.

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March 2009

Dear CCSSO members, partners, and staff,

At no other period in our history has public education been more critical in offering every child the opportunity to be prepared for the future. However, as we have all realized, the education system that brought us this far was not designed to consistently and comprehensively achieve the goals of equity and excellence for all students. Driven by dynamic new realities, companies and public institutions have been retooling and innovating to harness new technology, address new realities, and turn the lessons of past practice into new ways of achieving success. The public education system now faces that same opportunity. We need to adapt to our dramatically changing landscape or risk becoming irrelevant.

To be able to truly prepare every child for postsecondary success, we must move beyond simply adjusting or layering on more programs/policies to the current system. Chief state school officers are at the heart of transforming key areas of the education system through state-level action. It's time to be clear about what the future holds and the critical role education plays. It's time for chiefs in every state to lead the way, and for the CCSSO staff and partners to support them in those efforts.

This forward-looking approach is about realizing and harnessing the power of our collective action. Beyond defining issues and components for a new system of public education, we believe that by working together, we can become the proving ground for a more effective system of education. United, we can build a platform for real educational transformation with innovative approaches to leading, learning, and teaching, with the support of complementary standards, assessment, accountability, and data systems.

Education is an interconnected enterprise. Engaging more students in deeper learning experiences and emphasizing the importance of collaboration, problem solving, and communication for both students and adults cannot happen without action across the entire education system. Redefining standards will necessarily lead to major changes in educator preparation. Data systems used today and in the future to track and measure student progress should also inform teachers' classroom practice and training. Making sure these systems are working and connected is largely the job of state education leaders. Mapping the vision for transformative work—how to strategically redesign the system, redeploy staff, and find new partners to build quality and get results—is not just an opportunity for state leaders to work together, it is our responsibility and imperative.

There is incremental change. There is transitional change. Then, there is transformational change. We support the transformative approach and have begun this work by focusing our efforts on four interconnected key elements of the public education system.

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1. Next Generation Learning

Our work begins with the promise that we have made to prepare each and every child for success in postsecondary education, work, and citizenship. But, the system of education we have today is not designed for nor does it guarantee success for all. We must directly change the learning environment as it is broken and falling woefully short of the promise for far too many children—the pieces of the system no longer fit together. We believe we have two choices. We can either give up on our dreams for each child or transform the system of education for a next generation of learning. We choose to pursue a new vision.

Because we choose transformation over failure, we are ready to approach this work with a spirit of innovation, creativity, and entrepreneurial thinking. Since we do not know what a new system of education will or should ideally look like, we must be willing to suspend disbeliefs about what is possible and focus on the elements of a new system that we know are necessary. These "critical attributes" must function as guideposts along the path; that is, if a strategy, policy, or initiative does not support the critical attributes, it must fall out of the work. In the course of this work, this will be true for what is proposed and for what is already in place. Nothing is sacred except the promise to the child.

2. Standards, Assessment, and Accountability

If we are to challenge what learning should look like, we must also turn to the three historical and powerful drivers of education reform: standards, assessment, and accountability. Each on its own represents common sense answers to problems that plague the educational enterprise. Each has—in its own way—become ubiquitous in education today, to the point where its need now goes unquestioned. Concealed within that ubiquity, however, is the fact that in the process of implementation we introduced a unique set of unintended consequences that must be addressed if the goals of reform are to be realized. Rather than start over, we believe that we are actually uniquely positioned to advance the thinking in each one of these areas in a way that will greatly improve our ability to meet the needs of our students. Unlike the first round of reforms that occurred state-by-state, we will be far better off to tackle the current set of problems with a united and collaborative front to ensure success.

3. Creating a System of Educator Development

If we are to radically change the system of education and how learning occurs, we must revisit and alter how we recruit, distribute, develop, and support the educators who directly touch the lives of children. Let's face it: the current system of educator support, designed 50 years ago, will no longer serve our needs. It in no way maps to today's labor pool or work patterns. It is front loaded, accesses a limited pool of talented persons, is standardized in roles and responsibilities, and organized around outdated reward structures.

It is time for states to change the rules, to encourage innovation, to learn from other sectors, and to apply new principles to transform the profession. Building around the new imperative for student success, we stand ready not only to look into what has been most effective in the current structure but to challenge the traditional levers of support and influence on our workforce in education. This in-depth review will help identify what critical elements state education agencies can target to elicit excellence and effectiveness in its workforce.

4. Comprehensive Data Systems

Data collection, accuracy, reporting, and usage for informed decision making have never been more critical than in this time of shifting global power and uncertain economic vitality. Around the world, other nations and economies have harnessed the power of data to transform their education systems to better serve students and drive system-level success, while America's investment in data systems still leaves timely reporting and real-time use of data to inform instruction and decisions always just beyond our grasp. These data are always just a few years away from having a real impact on teacher practice, always hinting at the ability to support the most effective policy determinations, and always residing on shifting state and national sands.

To create a new generation of data systems, we are focused on strengthening chiefs' capacity to manage, support, and strengthen their state data systems. Through this focus we will make our State Education Data and Research Center (SEDRC) the premiere data resource for chiefs,

policymakers, researchers, and interested stakeholders through new and user-friendly mechanisms.

Your Role in Leading These Efforts

These four critical areas of work offer a unique opportunity for us to work together, to build state education agency capacity, to create an atmosphere that encourages innovation, and to focus on the promise we have made to excellence and equity.

Thank you for taking the opportunity to share your initial feedback on each of these four areas through a white paper format during the 2008 Annual Policy Forum and Business Meeting. We appreciate the genuine interest and insight you've shared with us, your colleagues, and CCSSO staff as we determine the content of our work together. That feedback informed this discussion document, helped shape the work of the Presidential Taskforce in formulating recommendations to President Obama's Education Policy Transition Team, and continues to inform our current advocacy and programmatic activities.

The main purpose and intention of the following document is to fuel discussion, establish the rationale for our selection of these four areas of work, highlight the connections among the areas, and outline next steps. The content contained in this document will be used to shape and inform our specific programmatic work, advocacy agenda, fundraising efforts, and other communications materials.

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State chiefs are the nexus point for driving systemic change in the United States. As partners and colleagues we are positioned to contemplate the best approaches to transformation and be prepared to lead in a proactive way. It's time to think big, imagine what the future holds, and identify the steps that will begin to move our education system aggressively to a place where all students will achieve at high levels. It's time to envision and start building the education system of the 21st century—one that will deliver the best of what educators know and can do.

Sincerely,

T. Kenneth James
CCSSO President, 2008-2009

Gene Wilhoit
CCSSO Executive Director

Next Generation Learning

Committee Co-Chairs: Alexa Posny (KS); Gerald Zahorchak (PA)
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Chief state school officers and CCSSO have agreed on the need for transformational change in education. Will we commit to efforts that result in a nation of children ready to succeed as productive members of society?

A free, high-quality public education is a fundamental civil right in this country. We are committed to public education's new promise to the nation, which is to prepare every one of our children to be an informed, productive citizen. The promise is met when each child graduates from secondary school with a diploma that has substantial value as a passport to further learning and opportunity. More than ever, our students' futures and the future of our economy are also dependent upon the ability to compete globally. The challenge we are all facing is to actually make the "all kids' agenda" a reality, and we believe that will require fundamental and transformational change to our existing system.

According to the U.S. Census Bureau, the national average freshman graduation rate for public school students receiving a diploma[1] is 74.7 percent. The United States has slipped from a position of first in graduation rates in the world to 18 out of 24 industrialized countries.[2] Researchers estimate that the graduation rate in the United States drops to 58 percent for Hispanics, 55 percent for African Americans, and 51 percent for Native Americans and that 1.23 million high school students will fail to graduate in the class of 2008.[3] Not only are too few students graduating from high school, but many of those who do find that they are not, after all, ready for postsecondary education and/or work. Among students entering postsecondary education as freshmen in fall 2008, 28 percent were enrolled in one or more remedial courses.[4] Freshmen at public two-year colleges were enrolled in such courses at a rate of 42 percent.[5] Moreover, too many students are disengaged, feel disenfranchised, and do not believe they have a voice in determining how they experience education. They are not able to "own" their educational journeys and learn to assume responsibility for planning and preparing for their futures. The problem is most severe among low-income and minority students, leaving them much less likely to believe that they can aspire to, gain access to, and complete postsecondary opportunities that lead to a degree or credential of real value in the world of work.

The situation that we find ourselves in is based on a long history, but that does not make it acceptable. Barriers associated with generational differences, time, resources, socioeconomics, and culture persist. Although it is generally acknowledged that the education system we have today was not designed to support each and every child to high school graduation, today's expectation is that it must.

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[1] U.S. Department of Commerce, Census Bureau, Current Population Survey (CPS), October 2006; Chapman, C., and Hoffman, L. (2007). *Event Dropout Rates for Public School Students in Grades 9–12: 2002–03 and 2003–04* (NCES 2007-026), table 1; Sable, J., and Garofano, A. (2007). *Public Elementary and Secondary School Student Enrollment, High School Completions, and Staff From the Common Core of Data: School Year 2005–06* (NCES 2007-352), table 4.
[2] National Governors Association, CCSSO and Achieve. *Benchmarking for Success: Ensuring U.S. Students Receive A World-Class Education*. 2008, page 11.
[3] *Diplomas Count, 2008, Executive Summary*. *Education Week*. June 5, 2008.
[4] National Center for Education Statistics. *The Condition of Education 2005 - 2008. Indicator 31: Remedial Course Taking (2004)*.
[5] *Ibid*.

As leaders of state education agencies, chiefs have pushed forward by raising standards and undertaking incremental change, but within the confines of the present system even the most promising innovations have not impacted student achievement at scale among the populations with greatest need. State education agencies find themselves, then, in a very difficult position—transforming the system or trying to shore up a 20th century system to do the work that is needed to meet the expectations of the 21st. Together, we propose to shift the focus to create the vision for a new system of education and next generation systems for learning that are designed to support every student to graduation, prepared and ready for further levels of learning, work, and citizenship in the 21st century.

The pursuit of a new systems design will require innovation, creativity, entrepreneurial thinking, and broad-based collaboration. CCSSO is fortunate to have strong business and foundation partners and good relationships with leaders in many sectors of the economy, nationally and internationally. Most of these organizations are going through or have gone through reinvention of their own business models in response to changing needs and opportunities.

This new generation of students, as research has shown, learns differently. They live in a world of "end-user self-sufficiency," expect to be able to individualize their experiences, and are becoming used to accessing services and resources from almost any place at almost any time. The students and their parents/guardians, increasing numbers of whom are "digital natives," expect to interact with systems that are more transparent, more available, more collaborative, and more approachable. They know what is possible. Public education will adapt to these changing expectations or risk irrelevance as students and parents seek alternative sources of learning or simply disengage.

Visioning the future of teaching and learning will require looking beyond the education sector and outside our state and national borders. It will require us to listen to student voices and engage guardians and other youth advocates. It will require us to examine what we have learned, carry those transformational and effective lessons forward, and uncover emerging innovations and exemplars of high promise. It will require the courage to leave behind what is not working, remembering that the priority during any kind of transition is a student's right to learn and our moral obligation to teach them.

Chief state school officers are engaged in breakthrough thinking and are assuming leadership for transforming the system of education to imagine what public education could be if it were created anew. They know it is time to break out of the paralysis of trying to fix what we have and turn the focus to what we need to invent. Through facilitating meaningful collective state action, we can position ourselves to remove barriers at federal, state, and local levels that are impeding or will impede progress. Change is coming, and we are engaged and willing to lead.

Chiefs and CCSSO have committed in a strategic plan to pursue a strikingly different approach to building a national education context for this century. Four foundational aspects of work have been identified. They are tightly aligned, systemic, and high leverage:

- a next generation system of learning that is designed to fulfill the social compact of public education—to do what is best for each and every child to cause learning that leads to success
- a new generation of standards and assessment capable of driving a world class system of education through a rich multidimensional accountability system and redefining what it means to be a high school graduate

- a transformed system of educator development that supports the new expectations of learning and teaching for the 21st century
- an expansive and strategic effort to develop the capacity of state and national data systems to collect, report, and use data and to apply research in ways that improve outcomes

The following information focuses on the first area of our work—a next generation system for learning. But, the type of student experience it anticipates cannot be realized without being grounded in the right standards and better assessment, the realigned system of accountability, the decision making support and research base, and the workforce of high-quality educators being pursued in the other initiatives. As you know, tight alignment among the four is crucial. Each aspect of our work together is necessary to achieve the goals of the strategic plan, but none are sufficient as independent efforts.

To approach the question of what the student experience should be in a next generation learning system, we can and must begin by identifying critical attributes to function as guideposts along the path. These are core values based in part on research and in part on what we have learned from state and local systems that are being transformed through innovation and leadership. It is important to be clear that this is work of discovery and exploration. Though we identify today what we believe to be necessary conditions, we must enter the work admitting that it is impossible to envision the totality of a new and transformed system.

A new system for learning has to be flexible and agile enough to adapt to a world of constant and rapid change. It must be a more organic model that stresses interdependencies among its components. Through our collective leadership, we need to encourage others to abandon the idea that we can identify, formalize, and fix in place every possible aspect of an education system.

Grounding Ourselves: Critical Attributes to Guide Next Generation Learning

The following list of attributes is decidedly similar to other lists focusing conversation around low-performing schools and education reform.

1. Customized Learning and Supports
2. Just-in-time Assessment and Powerful Systems of Intervention to Address Barriers to Learning
3. Transparent and Aligned System of Student Expectations
4. Learning Teams and Project-Based Learning
5. Technology to Extend and Expand Learning Opportunity

We are distinguishing our work by insisting that the thrust of this work be on creating a new system and a design that can be taken to scale, not on trying to retrofit these elements into the parameters of the status quo. Below we discuss how each of the five critical attributes might guide our vision of next generation learning.

1. Customized Learning and Supports

The shift must be made from a system of standardized, one-size-fits-all educational paths to a system that supports every child along a personal learning journey. Rather than expecting the student to adapt to the needs of a more or less static institution, we believe the education system should be held accountable for providing a dynamic system that is deliberately engineered to adapt to the needs of each and every learner. Research and experience have allowed us to understand more readily what *every* student needs. To design a system that can

also deliver what *each* student needs is a huge, and distinct, challenge. We are interested in exploring the power of personalized learning plans and portfolios for which both students and the system are held accountable. Whatever form it takes, the plan could function as a contract guaranteeing equal opportunity for success between the education system, the student, the family, and the community. The portfolio could serve as a repository for evidence of student learning during the learning journey. These plans and portfolios could

- collect data from a variety of sources to guide decisions about services and supports
- collect evidence of learning accomplishments and outcomes, including academic and nonacademic experiences with both formal and informal learning partners, to serve as a resume for further learning, opportunity, and work
- evolve to focus on exploring academic and career interests and become the student's source of reflection about his/her educational progress as he/she plans and prepares for a transition to further learning and work
- enable and sustain meaningful, productive relationships between students and caring adults who have responsibility for student success
- provide the student and family with tools and information that will help them overcome barriers associated with college access and affordability
- identify early student interest in high-need, critical shortage career areas and foster student growth in that area by supporting developmentally appropriate relationships between the student, postsecondary institutions, and practitioners in the targeted fields

2. Just-in-time Assessment and Powerful Systems of Intervention to Address Barriers to Learning

Just as efforts to enhance instruction emphasize well delineated, integrated curriculum, efforts to address factors that interfere with effective student engagement in learning must delineate the nature and scope of learning supports. The thrust of this attribute is a shift to a coherent and continuous system of integrated supports designed to enable all students to have equal opportunity to learn at higher levels. Such a system should recognize and address the physical, social, emotional, and intellectual barriers to learning as soon as possible. This will require comprehensive planning at the federal, state, and local levels across multiple programs and funding streams to weave together fragmented programs.

Regardless of the framework used, a systemic approach to removing barriers to learning would contain strategies to

- enhance instruction to enable learning
- support key transitions
- increase home and school connections
- increase community involvement in aligning school and non-school-based services
- facilitate student and family access to services and special assistance

A system of intervention designed to do what is best for learning might

- start to engage and scaffold services to the learner from birth
- provide every learner with sufficient time, opportunity, and teaching to reach basic levels of literacy as the foundation for future learning before he/she is placed in a position in which he/she is likely to falter

- provide ongoing supports to ensure that students facing challenges are receiving the attention of professionals who can assess factors interfering with learning, design interventions, and work with teachers and others to remove barriers
- not be building- or school-based, but provide services that follow the child and integrate the resources of school, home, other public and private agencies, and community
- be tightly aligned with a system of on-track for success indicators, which also functions as an early warning system, to help students and guardians/parents understand whether or not the student is on track to meet the goals he/she has established
- guide students to resources aligned with their needs and available when they are needed, freeing students and families of dependency upon and compliance with time- and place-dependent access

3. Transparent and Aligned System of Student Expectations

We believe an important attribute in the next design for learning will be the shift to a much more transparent and interdependent system of student expectations, assessment, and accountability. More about this system is covered in the next section of this paper, so we will just highlight here that the shifts we are leading and supporting will enable students to

- experience the curriculum as a continuum of learning that is based on clear standards, that can be mastered through different pathways, and at paces that are appropriate to the individual learners
- perceive education as a continuum of learning through which learners move based on mastery of concepts and development of skills in a no-failure model
- enter and interact with the curriculum based on their knowledge acquisition and skill level, so that they are credited for prior learning but are not placed into an environment where they are likely to be unsuccessful without additional supports
- understand the learning goal, the criteria that will be used to assess their performance, and see exemplars of work at various levels so that they have a clear vision of success
- accumulate credits towards the diploma outside the constraints of traditional building-based schedules and locations, including opportunities to earn college credit while in high school, to pursue capstone projects in areas of specialization, and to apply knowledge and skills through internships with business and community partners

4. Learning Teams and Project-Based Learning

New instructional delivery systems can be created that group and regroup students, educators, and others in learning environments with context and content that are collectively meaningful. There is opportunity to engage subject matter experts, content experts, and others as partners in learning teams led by educators to work with students on an individual or group basis.

We believe that teaming may be one strategy for increasing or stretching high-quality teaching capacity in high-demand content areas by blending on-the-ground and online formats. Learning teams that invite content and subject matter experts to interact with students in meaningful ways could offer more opportunities for customized learning with real-world connections.

Teaming is also a powerful way to support project-based learning, in which learners collaborate on complex tasks in real-world contexts to investigate and solve problems in hands-on environments. The goal is high-quality education for all. All students should be able to interact with educators of high expertise who provide guidance, offer direction, and orchestrate learning experiences that challenge students to do their best. Creating a system based on learning

teams and providing *developmentally appropriate* project-based learning might enable students to

- draw on prior knowledge and make connections to the task at hand, seek the information, tools, and resources they need, and solve problems to develop knowledge and skills
- connect to communities of interest, academics, practice, peer, and place to gain a deeper understanding of concepts with others who share similar interests, to find primary source materials, and to gain first-hand understanding of how what they are learning is applied in the world
- connect with people from those external communities, both formal and informal, who may become part of a learning team to coach, to teach, or to participate in the assessment of student learning as an authentic audience
- specialize and become experts in a field about which they are unusually passionate to become creators of content, contributing to the knowledge and resources of the group as a by-product of their own work
- be supported by educators who collaborate with one another to design experiences that provide students with equal opportunity for success regardless of where they live, such as access to remote labs to run experiments on equipment not available locally, participation in online courses, learning partnerships with students in other countries, or internships
- find meaning and relevance in the learning experience

5. Technology to Extend and Expand Learning Opportunity

Another critical attribute in this system transformation is a commitment to shift to a learning delivery system designed around the needs of learners today. K–12 education is one of the last sectors in the United States that has not been transformed at scale in very fundamental ways by the onset of information and communications technologies. It has not, at scale, attempted to do what many other institutions have had to do to survive, and that is to reinvent itself to meet the needs of a changed customer base. In the United States, too many high school students say that they have to “power down” as they approach the doors of formal education. This complaint is not just about access to technology. Studies show that many of this generation learn while multitasking, value choice, and would prefer to collaborate with peers than work alone. These are learning styles that technologies enable.

Next generation learning will be personalized, contextualized, and mobile. A next generation learning system will provide access to learning anywhere and at anytime because resources are generalized throughout a network, connecting learners and teachers with one another and with the content, tools, applications, and other supports they need. In a next generation system of learning, schools—as the nexus of learning resources in the community—will also be nodes in a broader learning network connecting a wide range of institutions, partners, and resources. In a system that leverages technology to extend and expand learning opportunity, students might

- have virtually unlimited access to an expanded base of learning resources, including teaching specialists and content repositories that provide opportunity to find, access and contribute high-quality, digital content that meets specific instructional needs
- be engaged in collaborative learning environments to establish and sustain relationships with both formal and informal learning partners, anywhere in the world
- understand and be energized by the fact that any place can be a place of learning and any time can be a time for learning

- be ensured of access to learning in environments that are safe and secure, accessible when they are needed, and connected to the learning delivery system whether the place is the home, the school, a web portal, or a place in the community
- be supported by parents/guardians who are better prepared to take responsibility for student success and provide meaningful supports because they have access to data, information, resources and people without having to adapt their own schedule to that of a school

Making Room for Innovation: How to Proceed

Timing is right for us to take these bold steps. The new administration has outlined an education agenda that calls for a 21st century education system that "begins with demanding more reform and accountability, coupled with the resources needed to carry out that reform; asking parents to take responsibility for their children's success; and recruiting, retaining, and rewarding an army of new teachers to fill new successful schools that prepare our children for success in college and the workforce."[6]

To pursue this agenda and move beyond the rhetoric, we will have to remove barriers and make room for innovation. Some of the barriers will be obvious to us—almost any assumption about the way that students experience education that is based on policy first delineated by time and place must be called into question. The list includes ages that students enter and exit phases of the present system and grade levels, the time that students are allotted with a teacher and a content area within a fixed period of certain days of the week, the fact that credits are based on time, and the duration of preschool, kindergarten, elementary, middle, and high. Why does kindergarten begin at age 5? Why is high school four years? The same can be said for place if we begin to think about learning being available in other than a specific face-to-face environment. The very vocabulary that we use to describe the current system of education may not be relevant in the new system. Education can create new relationships between learners, teachers, and content outside the confines of geography and demographic. A rethinking of the educational institution in this context does not mean that students would lose the opportunity for rich face-to-face experiences or be limited to online learning. These ideas are not mutually exclusive. Instead, we should anticipate a design that makes it possible for more students to engage with the most skilled teachers and to focus more time with teachers on learning.

It will be necessary to look at models for innovation outside what is familiar to us as educators. This will mean bringing thought leaders to the table from other nations and from outside our own community. Both within and without the education sector, leadership for this effort must insist upon a vastly enlarged sense of possibility and opportunity for each child and the belief that all children can learn at high levels, given appropriate support and resources.

We will work with chiefs, state education agency (SEA) staff, and our partners so that we can be strategic in our thinking about the right places to start, the proper sequence for cultivating new ideas, how to scale up successful models, and how to secure resources and capacity; and, we need to acknowledge that change can be messy work. State education agencies play a powerful role in shaping the rules and regulations that allow innovation to begin, and are acutely aware of how the state and federal regulatory environment can speed up or stymie new directions. As we work together to shape the definition of these new support systems, influencing a regulatory environment that is flexible and permissive about change will be a key contribution to our success. We are asking chiefs to be ready to say yes to districts or community groups ready to innovate. There are several dimensions of innovation to consider,

[6] Retrieved from //www.whitehouse.gov/agenda/education/

including structures, boundaries, content, roles, and delivery. It is likely that we will see elements of a new system develop alongside the old, before we attempt to dismantle the old.

Together we need to be ready to provide leadership by encouraging educators to take risks, try new ideas, and communicate to the education community and public the importance of strategic change. To make room for innovation it will be necessary to confront issues with which we are not always comfortable. We need to confront issues of race, ethnicity, and economic diversity and reject the circumstance of birth as destiny. We need to acknowledge that our demographics have changed and will continue to change. It will be necessary to acknowledge that expectations for education in the 21st century are much higher and will continue to grow. As leaders we must understand these expectations at a much more granular level, have greater clarity around our standing in the global community, appreciate the realities of international competition, and rethink the role of public education. Debating the nature of the students that come into the system or the demands that are placed on education will not yield what the country needs.

Convening Thought Leaders

CCSSO will serve as a force for convening chiefs and other thought leaders to design innovations and transformational changes in the way students experience public education. We will work to ensure that these leaders represent diverse sectors of the economy, bring both national and global perspectives, represent public and private interests, and are able to infuse the discussions with information about how other countries and states in this country are innovating to improve educational achievement. These interactions will provide a bridge between our vision for the future, the transitional changes that will lead to true transformation, and specific means to carry out our ambitions.

Creating and Supporting Innovation Labs

This is the opportune time for us to work together as CCSSO members, staff, and partners to support our state colleagues who are ready to take the risk to imagine what can be for their students, rather than continuing to battle the status quo. The opportunity to work in a collaborative arrangement to initiate the necessary changes within the state, districts, and schools, requires a partnership with the federal government and institutions of higher education. It will take all of these sectors working together to find the appropriate balance between removing barriers, maintaining protection for young people, and ensuring accountability for results.

CCSSO stands prepared to work with a consortium of states that are ready to take on this challenge by creating Innovation Labs through comprehensive state learning compacts, whereby the SEA works with at least one local education agency, their broader community, and postsecondary partner(s) to create a new system. We believe that other education and policy groups, business, and foundation partners with whom CCSSO has strong relationships are willing to engage, and we will be reaching out to them as this work evolves. Additionally, we will identify potential funders to capitalize the effort and secure the cooperation of the federal government in establishing new relationships with states and districts and providing resources to support the Innovation Labs. Partnerships will also be leveraged to design and carry out appropriate evaluations.

What will it take? The will, the collective support of colleagues who are of like minds, and the belief that it can be done. We cannot retreat from our commitment to all students learning at higher levels, and we can produce the hard work to make it happen—if we work together.

Incentives at all levels of the system will be important. Change is hard, and transformational change can appear overwhelming. As design elements of a new system emerge, careful attention should be paid to meaningful, sustainable incentives for institutions, educators, community, parents, and students.

We will work to capture the power of our collective state action learning community. CCSSO will work hard to ensure that adequate supports are wrapped around this community, including access to expertise, coaching, and negotiations with the federal government to hold the engaged SEAs harmless from any potential negative consequences related to accountability and funding.

Finally, if a primary goal of this component of the strategic plan is to develop an equitable system in which students assume ownership and accountability for their own learning, then students must be an informed constituent group engaged in the work from the beginning and at all levels—local community, SEA, postsecondary, federal, and through CCSSO. The student voice in discussion and debate surrounding these issues must be taken very seriously—just as seriously as any other partner at the table. This work must reach out to students who have left or feel that they have been pushed out of the education pipeline—including those who have been placed in alternate facilities or who are incarcerated.

As Innovation Labs develop within our states, it will be important that local student leaders—and a very diverse group of student leaders—are on the front lines to help organize strategies for getting from where we are to where we want to be. Young people have tremendous capacity to help develop strategies that are truly community based and will lead to community ownership of transformational change.

On this journey, we must continually question our adult beliefs about what public education is and ask ourselves, “What can we do for children in this country if we truly commit to creating a future for public education as it should be?”

Standards, Assessment, and Accountability

Committee Co-Chairs: Joe Morton (AL); Steve Paine (WV)
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Introduction

As we pursue our transformative "next generation learning" journey, we must turn to the three historical and powerful drivers of education reform: standards, assessment, and accountability. As drivers in the education space, they will undoubtedly play a critical role in ensuring our vision for a new system of education and next generation learning is realized.

Each of the three drivers represents common sense answers to problems that plague the educational enterprise. Each has—in its own way—become ubiquitous in education today, to the point where their need now goes unquestioned. Concealed within that ubiquity, however, is the fact that in the process of implementation we introduced a unique set of unintended consequences that must be addressed if the goals for this generation of learners are to be realized. Rather than start over, we are actually uniquely positioned to advance the thinking in each one of these in a way that will greatly improve our ability to meet the needs of our students. Unlike the first round of reforms that occurred state-by-state, we will be far better off to tackle the current set of problems with a united and collaborative front to ensure success.

When it comes to the drivers of reform, it is helpful to think of reform efforts in two phases (see Table 1). Reform 1.0 tasked us with the responsibility of extending the benefits of a quality education to all students and encompasses the bulk of the work done to date. Reform 1.0 focused us on underserved populations through new accountability structures, which ushered in an unprecedented era of test-based accountability and demanded that states clarify what is to be taught in core areas by creating standards.

TABLE 1: Thinking of reform in two phases

	REFORM 1.0	REFORM 2.0
Goal	Quality education for all students	Quality education for all students
Standards	Expert committee decisions based largely upon experience	Research/evidence-based decisions benchmarked against successful schools, with an emphasis on application of knowledge
Assessment	Indirect methodologies that focus on content	Direct methodologies that measure both skills and knowledge (with indirect where appropriate)
Accountability	System focused	Student focused (which is different from student based)

Reform 2.0 must build on what went on in Reform 1.0. The value in declaring a new version is that it allows us to examine and deepen our understanding of what has already occurred while using a set of critical lenses determined to highlight our successes and remedy our shortcomings. As we recognize the significant efforts that have come with Reform 1.0, CCSSO is clear that our support of certain aspects of Reform 1.0 will not change. We will discuss some of the pieces of Reform 1.0 in more detail as we move through this chapter.

Standards

We must first start with our educational standards. In Reform 1.0 states were initially tasked with the challenge of creating standards in core areas at a few grades and eventually in grades 3–8 and once at the high school level. To create these standards states used a variety of methodologies, but in virtually all cases the most crucial step involved committees made up of subject matter experts making the determination as to what those standards should be, sprinkled with the occasional parent, business representative, politician, and other interested non-educators, to ensure that the standards would meet the common sense needs of the public. These were tough, contentious conversations that struggled to pare things down to a manageable level, sensing that because the standards were going to drive "the system," content and skills that failed to make it into the standards would not be relevant.

To understand the impact these standards have had, consider that they function as the basis for billions of dollars worth of annual infrastructure investment—including curriculum, textbooks, tests, professional development, supplemental materials, etc.—and yet the standards as constituted consist primarily of reasoned estimates as to what ought to be addressed in a particular grade and subject—replicated 50 different times. We can now look back and see groups of people making the most well-informed decisions possible, but (through no fault of their own) lacking a research basis, lacking evidence to support their decisions, lacking a methodology for leveling the standards across and within both grades and subjects, lacking the time required to create such things given the urgency of the problem. While collaboration across state lines was clearly desired, the challenges presented by combining 50 such agendas made collaborations the exception rather than the norm; although where such challenges were addressed the results were generally positive.[7]

Recognizing the nature of 1.0 standards as the most educated of estimates and realizing how they have come to function as the formal backbone of much of our educational practice and infrastructure means that change is going to be easiest in concert with one another. Part of this recognition is that it is a "strength in numbers" issue, but part of it is also that the argument in Reform 1.0 that each state was sufficiently different as to warrant its own standards in order to retain its autonomy no longer applies. Part of this may be due to globalization, part to the realization that algebra and reading standards that emerged through 50 painful experiences are so similar that a single painful experience would probably have sufficed, and part to the idea that our states are going to be compared no matter how inappropriate the measure or the difference in standards, so the comparison might as well be a valid one that can support good policy. All of these points lead to the conclusion that a common set of state-led standards is a necessary step in Reform 2.0.

In addition, our understanding of how to sequence standards, how to base them on research and evidence, how to benchmark them against successful systems both here and abroad, and our shared desire across states to see that they reflect college- and workforce-ready expectations, combine to create an environment in which change would be meaningful and collaboration essential. The moment for Reform 2.0 to pick up the standards banner could not be better.

[7] Two examples of successful collaborations include the New England Consortium between New Hampshire, Rhode Island, and Vermont, where common standards and assessment were the result, and numerous activities emerging from the state collaborative activity known as SCASS, run by CCSSO on behalf of states. SCASS stands for "State Collaborative on Assessment and Student Standards."

Assessment Processes

Consider the second driver in Reform 1.0. The assessment methodology initially intended to be deployed against these new standards involved "direct" measures (see Table 2). Direct measures work to understand student achievement by going directly to the heart of the matter rather than through correlated inferences. Writing prompts that ask students to write a short paper, for example, represent a direct measure of a student's ability to write, while multiple-choice items that assess aspects of writing represent an indirect measure: certainly these aspects are part of a student's ability to write, but that ability itself is not directly expressed in those items. Indirect measures like standardized tests have value because they allow for a cheap, efficient way of understanding some very complex things about students through the use of correlations.

At the beginning of Reform 1.0 it was understood that indirect measures were not going to be sufficient for the bulk of the standards once you apply the weight of accountability, as it asks instruments and item types designed to be used for research to carry a load for which the design is insufficient. Consider what might happen, it was argued, if you hold a school accountable to a standardized test designed to be a proxy for literacy—teaching could quickly limit itself to the tested content (the proxy) in spite of the fact that the goal of education remains at the broader levels of literacy, especially if accountability puts jobs and livelihoods on the line. This is because while the goal would be to hold teachers accountable for creating literate students, the message would be that they would be held accountable for helping students pass a test. If we cared about literacy, it was reasoned, we needed to directly assess literacy.

With few exceptions early efforts at direct measures faltered. They were expensive, especially given that they had to be developed state by state; they were prone to scoring and marking anomalies due to a steep learning curve; they were unfamiliar to a generation raised on standardized tests; and they just felt messy. In addition, consider the perspective of a non-educational expert tasked with making policy. To them, the indirect measure of a standardized test correlated very nicely to the desired goals of reform, so it wasn't illogical at all to think that accountability to the indirect measure might be a good idea. To continue the earlier writing example, a policymaker could look at a multiple-choice test of certain aspects of writing, recognize that students who did well on that test could indeed, for the most part, write, and conclude that holding schools accountable to the test would therefore be a good thing.[8] To them, the direct measure of writing appeared to require a more expensive and cumbersome system was just that—more expensive and cumbersome. If something could be known from the simpler, less expensive system, then the simpler, less expensive system was better.

Accountability, though, rendered that inference null and void. In a research environment the indirect measure does indeed have a correlation to an important trait outside and beyond the test and represents a far less expensive way to reach that understanding. In an accountability environment, however, the risk is that the inference will be inadvertently limited to the tested material. In the example of writing, accountability against a set of multiple-choice items risks reducing writing from a significant and important skill to a set of worksheet problems. However illogical to equate a few simple items with a complex component of literacy, holding schools accountable for a measure designed for research creates a reason to do just that and teach to the test. While the illogicality of that seems crystal clear in the writing example, the fact that it happens in the core areas of reading and mathematics is now such a matter of record as to

[8] Some in the "back-to-basics" camp argued that this focus on the simpler parts was a precursor to greater things and thus necessary, making the focus here, for them, quite intentional. Even if true, not even those supporting such a position meant for that to set the limits for what was taught.

represent one of the greatest threats to the ultimate goals of Reform 1.0. Again, the point is not to disparage an item type or assessment tool, but to point out the appropriateness of a tool with a particular purpose.

In the case of being accountable to a larger skill and the use of multiple-choice items to get there, the goal and the test use are incommensurable.

CCSSO has led efforts to define different forms of assessment, including formative[9] and benchmarking measures as part of a rich assessment environment. This important work must continue and not get lost in the discussion of changing the high-stakes assessment system. Many of the measures involved in formative assessment are direct measures, which are extremely useful with student diagnosis. This work must continue as we work to use multiple measures in demonstrating student success.

When the No Child Left Behind Act (NCLB) was passed into law, the requirement that test scores needed to be submitted to schools prior to the beginning of the next school year meant that the use of direct measures in Reform 1.0 was all but done, and in the intervening years even the last vestige of that movement—the constructed response item—has been largely trimmed from declining state budgets charged with the requirement for a quick turnaround of results. Now the vast majority of tests are in fact versions of the standardized tests that were intended as proxies for the more relevant skills and competencies in a non-accountability environment. "Meeting the standard" was supposed to be a proxy statement that inferred something beyond the actual tested content in an indirect measure, but remember that the proxy relationship is no longer

TABLE 2: A brief comparison of direct and indirect measures

	INDIRECT MEASURES	DIRECT MEASURES
Primary format	Multiple-choice items	Constructed response items/tasks, writing prompts
Basis for use	Research within student populations	Mastery level of students
Inferential ability	Internal and external (i.e., tested material and correlated traits)	Internal (i.e., tested material which includes desired traits)
Changes in inferences with accountability	Limits inferences to internal only (tested material)	None
Most negative educator behavior under accountability	Limit teaching to tested content	"Parroting" of previous year's success
Where is success?	Answering enough items correctly to pass the test	Performing at an identified mastery level
Cost	$	$$$
Score/marking effort	Minimal	Significant
Examples where preferred	U.S.	A majority of PISA countries outperforming the U.S.
Impact on changing instruction positively	Minimal	Significant

[9] CCSSO's Formative Assessment for Students and Teachers (FAST) SCASS group has defined formative assessment as "a *process* used by teachers and students during instruction that provides feedback to adjust ongoing teaching and learning to improve students' achievement of intended learning outcomes."

valid. Now, our inferences are limited to the tested content, encouraging practices that prepare students for the tested material but that often miss the bigger, more important picture. That bigger picture must be a cornerstone of assessment and accountability design in Reform 2.0.

Accountability

The third component in the triumvirate of drivers is of course accountability. Table 3 attempts to articulate the "positioning" of accountability and show that the selection of the assessment tool can combine in a myriad of ways with very different results.

TABLE 3: How different combinations of system accountability and direct or indirect measures tell different stories with very different effects for students

Note: Scenario #1 represents the state of affairs in Reform 1.0.

SCENARIO #1	SCENARIO #2	SCENARIO #3
Success *on a* date certain—**indirect** measures… will result in a distribution of scores on that date; as a result, 100 percent pass rates are virtually impossible without a very low passing score. This path tests students against *system needs*, and success is positioned in some amount of tested content. Accountability = the percent of students meeting the standards	Success *on a* date certain—**direct** measures… will result in a variety of performances on that date; as a result, 100 percent pass rates are improbable but not impossible. This path tests students against *system needs*, and success is positioned in some level of measured skill. Accountability = the percent of students meeting the standards	Success *by a* date certain—**direct** measures… will result in a distribution of dates on which students showed mastery; as a result, passing is dependent on effort, and as such a 100 percent pass rate is possible. This path tests students against *student readiness*, and success is positioned only once the student is proficient. Accountability = the percent of students meeting the standards

Table 3 should be interpreted as a simplification as there are certainly components of standards that a multiple-choice item does a fine job of measuring (estimation in mathematics is one example), just as there are components of standards that should be measured through a set of tasks or a body of work. Scenario #1—which represents accountability as it has come to us in 1.0—shows that success was to be determined on a date certain each year primarily using an indirect measure (which it is in virtually every case). It also shows that while the goal is for 100 percent of students to pass that measure, such a goal conflicts with the underlying function of a standardized test which is designed to identify the variance among students—most notably in a distribution of some sort—against the tested content as a snapshot of a system on a given day. Tests and items that fail to do so are considered invalid. Thus while the goal is to have 100 percent of the students pass, the measurement instrument is designed with a different goal in mind. Its job is not to create a scenario whereby all students can perform at the top of the score range and pass, but rather, to create a scenario whereby students distribute against the broad score range, meaning that unless the passing score is set at a very low level all students passing would be virtually unheard of.

Moving to a direct form of measurement on a date certain system (Scenario #2) is certainly a step in the right direction in that while teachers would still be inclined to teach to the tested material, the nature of that material represents a more relevant result for students. In this

scenario the concept of “teaching to the test,” while still very much alive, at least has the benefit of being commensurate with the larger desired goal and not just the smaller, component parts. Furthermore, because the measure can be said to be against stated benchmarks of actual performance it becomes at least possible in this environment for all students to pass in a way that could be declared valid. This possibility remains small, however, given that it still means that all students would need to be ready to pass such a test on a particular date, and given the inherent differences in any population of students, that would be highly unlikely. It must be noted that Scenario #2 is what early reformers had in mind when the conversations around reform first began.

Scenario #3 represents one means by which systems could truly be held accountable for student-by-student achievement. It suggests that true accountability comes when by a date certain all students have met a particular requirement. The difference here is that the test is not given against the needs of the system, but against the readiness of the student. To see how this might work, consider the writing example cited earlier. Students in this final scenario would test on writing not when the system was ready for them at the end of the school year, but when the students showed a readiness to demonstrate proficiency, which given the inherent differences in levels of student readiness can have a fairly wide range. In that sense, given that the timing is based upon the efforts of both the system and the student, and given that students would be given differing levels of support in meeting the goal determined by need, the 100 percent goal becomes a possibility as it is dependent not on all students aligning achievement-wise on a date certain, but on the level of effort within the educational enterprise.

In Reform 1.0 (Scenario #1), time has functioned as the constant and achievement the variable, making it impossible for 100 percent of students to achieve the stated objective of NCLB because student-by-student achievement never works that cleanly. In Reform 2.0, achievement should become the constant, and time and effort should be the variables. Only then can the stated goal of all students achieving to very high levels be commensurate with the assessment instruments and the system of accountability.[10]

Before concluding this section, two points need to be made. The first is that no matter which of the scenarios in Table 3 are selected, the ultimate measure is the same: the percentage of students meeting the standard. What differs dramatically is the nature of the standard being met, which ranges from one where students are taught to and learn the tested content, to one where students are taught to and demonstrate their level of mastery of the larger and more important goals of education. The difference is in the very real outcomes for students.

[10] Scenario #3 would likely need to be combined with an annual status report to ensure that schools remain accountable for both the growth of a student and their status against the larger goal, especially if the readiness of students for a particular skill or competency spans grades. Consider a high school tasked with getting 100 percent of its students to demonstrate proficiency in writing by the end of grade 12. Some would demonstrate it early in their high school career, and some later. For those that demonstrate it early, the school needs to continue to support their growth, and for those who will demonstrate it later, the school needs to make their progress (or lack thereof) transparent. Scenario #3—however compelling—would come to a grinding halt if it waited until the last minute to point out that it had failed with a particular cohort of students (although with the single required high school test currently required, that phenomenon happens all too often now, so perhaps not). A simple way to address this would be to make the primary accountability measure the percentage of students in a graduating cohort who had demonstrated proficiency, with the secondary measure representing the probability of 100 percent success at the end of high school for each cohort then being served. This secondary measure could even be obtained through an indirect measure (since what you want here is a distribution, as that will tell you the level of effort required to get all kids to pass) so long as the primary accountability measure remained a direct one. The secondary measure would need to produce a metric essentially showing the distribution on those in a cohort who had not yet passed as a way of gauging the level of effort the school will need to put forth to get all students in that cohort and the school to show mastery. It would also need to produce a metric that includes those who had passed to ensure that their progress was still being served. Such a scenario has a huge advantage over current NCLB systems in that it would focus teachers on the bigger goals of education—in this case writing proficiency—while not losing sight of a single student in the system, driving the right kinds of behaviors for both students and teachers.

Second, it can be argued that if only educators had refused to narrow their teaching efforts to tested content and done what was actually best for students then Scenario #1 could have produced exactly the effect that was desired. After all, had they "ignored" the test and done what was right, then the proxy nature of the tests to correlate to the desired outcomes would in fact be valid because students would be taught to those outcomes and the tests would indicate that reality. Thus begins a conversation about intent: it was never intended that teachers (often at the demands of administrators and parents) would narrow what they do to the test, but rather that they would take the high road and be true to their calling to properly educate our children. Thus, the problem is not in the system, but in our execution and implementation.

Our work, then, can consist of trying to convince teachers and educators to do what is right for their students in the face of so many institutional, political, and financial realities that seem to say otherwise, or to create an environment that better aligns with the goals of education. A fear among early reformers was that we would reach this point, and it appears we have.

Thus the story of Reform 1.0: we created standards that consisted of the only methodology then available to us, which can be described as a set of well educated estimates combined with both pragmatic and political considerations; we built systems of assessment based on a proxy-based testing tradition (for practical reasons), but we left the proxy component behind and have created an understandable epidemic of teaching to the test as a result; and finally, we held systems accountable for achieving levels of performance on these tests that are explicitly designed not to enable the passing rates required by law and demanded by conscious.

Reform 2.0 must bring a new level of consensus, research, and focus to the standards. It must launch an era of assessment reform in which direct measures replace indirect measures. And it must refocus accountability—possibly in phases—to address the true needs of students and not just the needs of the system. How CCSSO intends to contribute to the effort is discussed below.

Next Steps

The lessons that emerge when looking at Reform 1.0 allow us to begin moving in earnest towards the next generation of reform. These lessons were not "learnable" when we launched Reform 1.0, as all are dependent on having accomplished a great deal in the first round of reform. The lessons in standards, assessment, and accountability are defining our current and future work.

Standards

The written standards need to be better aligned across states, more focused on skills and outcomes, grounded in research and evidence, and benchmarked against countries and systems with demonstrated success. Our work in the area of standards will consist of the following:

1. **Common Core of Internationally Benchmarked Standards:** We will advocate and support voluntary efforts by states to adopt or adapt a common core of standards that are internationally benchmarked, articulate the skills necessary for success, and prepare students for college and the workforce. This work, led by CCSSO, the National Governors Association, and other partners, will be grounded in research and an evidentiary basis, and represent a "fewer, clearer, higher" mantra. Note that we will diligently advocate against federal standards, as this needs to be a state-led voluntary effort in order for it to have the desired effect. This work will include direct work with the National Governors Association and Achieve, Inc. around international benchmarking and the convening of a forum of leading parties working on the development of the

common core of standards. In this way the results can be seen to have widespread support across interested constituent groups to better support and facilitate implementation by states.

2. **Development of Skills Frameworks:** We will lead, with states, an effort to focus attention on the outcomes component of the educational system, most notably around skills and competencies. It will not be our intent to add additional descriptions to already existing standards or to those that will be completed as part of #1 above, but rather to articulate the outcomes in such a way that the results of an education are made clear. We will do this most directly in the creation of skills frameworks for those skills deemed essential. Technically speaking, a skills framework is the vertical articulation of a skill from its earliest manifestation in a young student, to its most sophisticated representation in the hands of a professional. More simply put, the framework is a range of student work that when viewed as a whole shows the development of an essential skill over time and can be used to understand where students are in their own progression against established expectations. When viewed next to written standards, skills frameworks and written standards are simply two sides of the same coin. Standards articulate what students should know and be able to do, while the skills framework answers "how good is good enough?" Working through our state collaborative efforts (SCASS), we will raise the issues surrounding next generation standards and look for explicit support for the work of moving to these next generation standards.

Assessment

Tests used for accountability must make the change from being primarily indirect forms of measurement to being direct forms of measurement. Our work in the area of assessment will consist of the following:

1. **State Assessment Reform:** We will support states in addressing current needs even as they attempt to move their agendas to a more meaningful future. Unless we do this states will have neither the time nor the resources to engage in Reform 2.0, especially given that Reform 2.0 is beginning at a time when the resource pool is shrinking. Part of this support will then need to come in the form of collaboration in terms of resources, ideas, intellectual property, etc., in order to be fiscally realistic.
2. **Wholesale Assessment Reform:** CCSSO will continue to support the development of assessment that supports students in the classroom. Using effective formative assessment processes/practices with state testing measures will create a system that gives teachers the information they need and gives policymakers the information they need.
3. **Technology:** We will support an aggressive technology agenda. Many of the best ideas from Reform 1.0 related to standards, assessment, and accountability never saw the light of day because the thinking was so far ahead of the technology, not in terms of online instrumentation per se (though that was certainly a part of it), but in the sense that so much of what needed to happen was collaborative in nature. That barrier is now removed and we must embrace technology's power as an accelerator for Reform 2.0 to meet its promise. In the formative assessment process and short cycle measures, this will be particularly important.
4. **State Collaboration:** We will engage both SCASS collaboratives and the National Conference on Student Assessment where possible to further support the work around the next generation of assessment, including accountability tests, interim assessments, embedded classroom formative assessment processes, etc.

Accountability

Accountability in Reform 2.0 must consider accountability paradigms capable of meeting the stated goal of 100 percent of students achieving at very high levels. Our work in the area of accountability will consist of the following:

1. **Growth Models:** The Council is supportive of new methods for measuring growth of students over time. Currently, there are states involved in piloting and implementing growth accountability models. The Council understands the need for the growth models, and would like further investigation into models that measure growth and are simple for the public to understand. It is also necessary to move beyond growth models that simply replicate current status models, add greater complexity and cost, and show little/no appreciable benefit.
2. **Support Student Driven Accountability:** We will support and advocate for policies at the national level that will move accountability toward systems capable of actually seeing all students succeed.
3. **Technical Support:** We will address technical issues—primarily through our state collaborative efforts—on showing how the measure of students meeting standards is ultimately the same in each kind of accountability system, but that the impact on student's lives is profound. In this way we can be successful even if changing the federal policy is untenable.
4. **Public Mobilization:** We will work to publicize the points made here and elsewhere as to what the next generation of accountability should look like. This will include speaking opportunities as well as a publication agenda that should put the message out to a variety of audiences so as to increase the likelihood of success.

Implications on Teaching

While the next section of this paper will discuss more in-depth CCSSO's current and future work in educator development, we want to touch here how this next generation of reform in standards, assessment, and accountability will benefit and support teachers directly. Reform 1.0 made the unintended mistake of creating immense pressure that encouraged (and often demanded) teacher behavior to move in a direction that was neither good for the profession of teaching nor the education of students. The work described above will support teachers in a number of ways, including the following:

1. **Support for All Teachers:** Through common, research- and evidence-based standards, best practice will become scalable. Scalable best practice within states remains elusive to date in that standards that lack a research/evidence basis will respond poorly to a research agenda as to what works, making it difficult to ascertain cause and effect. Scalability across states is even more difficult, faced with the challenge of crossing multiple sets of standards lacking that research/evidence basis. Research/evidence-based standards that hold up to a research agenda give us an excellent chance to make best practice scalable, providing the teachers a heretofore unknown set of tools with which to drive achievement.
2. **Clearer Expectations:** Through the skills frameworks, teachers will have the ability to understand where their students are against a meaningful continuum—particularly in that the continuum will be expressed in a medium teachers understand very well: student work. Teaching to the next level on the continuum will provide a far healthier result than teaching to pass a test. With both skills frameworks and research/evidence-based standards, the opportunity for scalability is enhanced even further.
3. **Direct Measure for Student Achievement:** Using direct modes of assessment in an accountability environment produces results that are far more intuitive than the more

technical scores produced by traditional tests. Direct modes reflect practice and thus teachers tend to embrace, believe, and change in light of results. This helps to rid teachers of having to make the decision to do what's right for the student or what's right to meet some external accountability goal. Holding teachers and schools accountable for a direct measure means that the goals of the system, the goals of the teacher, and the needs of the student have a chance to come into alignment. As stated earlier, this is not to suggest that there is no use for other types of measures or measurement instruments, but rather to point out that the choice of the instrumentation must be commensurate with the goals of the activity. In that vein, standardized testing methodology on its own is inadequate.

Creating a System of Educator Development

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Introduction

Access to learning has opened up in ways we never dreamed. Because of shifting economic environments, globalization, and the rapid expansion of technology, students can learn anytime, anywhere and educators[11] no longer have a monopoly on pacing, timing, resources, or even the content of education. To respond to such changes, our education system must shift its focal point to being a major player in a much larger learning process for each and every child.

Transforming the system of education to meet these real-world demands necessitates that states define and support next generation learning; redesign standards, assessment, and accountability; and also think very differently about how we recruit, distribute, support, and strengthen our workforce.

Let's face it: the current system of educator support, designed 50 years ago, will no longer serve our needs. It in no way maps to today's labor pool or work patterns. It is front loaded, accesses a limited pool of talented persons, is standardized in roles and responsibilities, and organized around outdated reward structures.

Further, the job we term as "professional" is currently not as engaging as other professions. The environment is one of isolation, with little opportunity for specialization, and constrained by too many routine rules and procedures. We know so much more about what it takes to engage, excite, motivate, and keep outstanding talent that we are not applying to the teaching profession. It is time for states to change the rules, to encourage innovation, to learn from other sectors, and to apply new principles to transform the profession.

Imagine what we could accomplish if we transform our system of education to support *learning* organizations (no longer just teaching organizations) and its workforce. Then, we must be prepared to

- **differentiate roles, responsibilities, and authority** for our educators so that we are able to more easily customize the next generation learning needs.
- **honor both collaboration and specialization** as we have done in other fields, such as medicine. The fluid movement of teams working together and utilizing specialization helps to capitalize on new findings in research (especially brain research), technologies, and individualized learning techniques.
- **identify and capitalize on the patterns of labor mobility** and then best utilize the expertise of both short-term and long-term professionals.
- **utilize technology** not as a supplement to our work but as a primary lever to help educators with more routinized tasks and to provide individualized learning supports.
- **broker a variety of learning delivery models** so that we better pair our resources with what is needed.
- **prepare educators with the content knowledge and skills** that reflect the updated student standards.

[11] The term "educator" in this paper refers to teachers and administrators, which is the focus of the work of this strategic initiative. While current usage is moving away from "administrators" to "education leaders," we recognize that teachers (as well as others in the system) can be leaders too and thus, for clarity purposes, have used administrators here. The issue of vocabulary around roles and collaborative relationships in a new educator development system warrants further discussion.

- **utilize a variety of assessment data** to make informed decisions with and for each learner.
- **support ongoing professional growth experiences** to keep up with the fast-paced changes in our understanding of the learning process that result from technology and research advances.

The challenge for states is to build an educator system that is adaptable and comprehensive enough to effectively recruit, support, and utilize our educators in the changed 21st century learning environment.

Building a New System of Educator Development

Research has shown that teacher quality is the most important school-based factor and administrative leadership is the second in impacting student learning. Students often say their relationship with a teacher made the difference in their learning. The teacher-student-content relationship—the instructional core—is still at the heart of the learning system. What is different today is the context. As mentioned above and in other chapters of this paper, as a result of advances in technology, access to content has opened up exponentially as has communication capabilities and opportunities for collaboration. But access and communication alone do not ensure learning. A pedagogical expert or team with content knowledge is essential to structure a learning experience so that an identified learning outcome is achieved. That is the mission of education—to enable students to meet a common core of standards that embody the knowledge and skills necessary for success in today's world and beyond. These knowledge and skills should be measurable so that our educators can know whether our students are achieving them. Our goal is to lead the development of that common core and to help states build rich skills-based assessment systems to measure the progress of our students.

Teachers, as leaders of learning teams, are the fulcrum of this system along with administrators, who create the innovative culture, provide the support, and build the resource-rich environment for learning to occur. They deserve an infrastructure and support system that empowers them to do this work well, that respects their expertise, that recognizes them as professional learners across their careers, and that rewards them for achieving these goals.

Concepts and Questions to Consider

State leaders are challenged to think beyond the constraints of our present educator development system and focus on what "should be" to fit the new context. Rather than seeing the system through the current lens of alignment, which focuses on straight lines connecting discrete elements, let us think in terms of an organic system with moving parts that overlap and shift based on contextual needs and circumstances.

Building around the new imperative for student success, we stand ready not only to look at what has been most effective in the current structure but to challenge the traditional levers of support and influence on our educator workforce. As we look across the continuum from aspiring to retiring educators, here are key questions to consider.

- How do we best capitalize on the shifts in the labor market?
- How do we best recruit adults into this profession?
- How do we honor and support multiple pathways into and throughout a career?
- How do we nurture/support new entries into the profession?

- How do we tap the expertise of career changers by streamlining entry into the profession without sacrificing quality? How can we leverage and utilize retiring educators and others in the community who want to be involved but for whom the system offers no roles?
- What are the state's key decision points and requirements for deciding who gets in (e.g. initial license) and who stays in (e.g. ongoing license)?
- How can we develop a system that calls for differentiated roles and responsibilities?
- What is the best work environment for this workforce to be most effective? What are the differentiated roles, responsibilities, and authority of the educators in an environment that ensures success for each and every student?
- How do we honor unique roles and responsibilities these adults take on and reward them for effective teaching, learning, and leading?
- How can we generate supportive learning communities for our students and professional learning communities for the adults in those students' lives?
- Rather than seeing preparation, initial certification, and induction as separate elements, can we merge them into one comprehensive professional development program that integrates theory and practice and that is based on a model of growth and development of educators over their careers?
- How do we build a system that is flexible and adaptable to the learning needs of everyone in the system?
- How do we break down institutional barriers?
- How do we restructure the human resource management system to support and value our professionals in the system?

As we contemplate these questions and think about building the ideal system, there are five critical design principles that we think will model and support a dynamic 21st century learning environment for our educators.

Key Design Principles for Consideration

It is essential that we anchor our conversations in key design principles that will guide our decisions and enable us to let go of the usual conceptual frameworks and typical state leverage points and get us to the heart of the matter. If we are to truly transform our educator system, we must focus our energies on

1. getting the best and brightest
2. distributing the talent more equitably
3. supporting our educators
4. instilling success through effective collaboration
5. holding our educators accountable

We believe these principles will help ground our work as we reconceptualize and support our educators now and in the future.

1. Getting the Best and Brightest

First and foremost an educator development system must begin from and be constantly driven by a focus on high expectations for learning for all students. In order to achieve our goals for students, every one of them must have a good teacher. We often espouse this core value, but our infrastructure does not always honor it. The system must be designed to serve this overriding belief and create a learning organization in which everyone in the system learns and enables each other to learn. Thus, when we ask what our students should know and be able to do, we also have to ask: "What should we expect of our educators?" We should clearly

articulate our high expectations as they provide the vision that drives what the educator development system as a whole is trying to achieve; it also calls into question who should be recruited to serve as our educators. Education in the 21st century demands rigorous, world-class standards for teachers and administrators as well as students.

We have learned from other nations that a critical component to their success is that the best and brightest professionals are tapped to serve in their education system to teach and lead. We should look to our teacher and education leader standards as they can set the baseline for what type of educators we want and need in the system. What knowledge, skills, and dispositions do we require of educators in our systems? Since the teacher-student-content relationship is still at the heart of the learning system, we must raise the bar on who becomes an educator and aggressively recruit those individuals who can at least meet and eventually exceed those baseline expectations.

To get the best and the brightest, we need to nurture and support different ways professionals come into the teaching profession and tap the expertise of career changers by streamlining entry into the profession without sacrificing quality. This speaks to getting the right folks into the system who not only have the content knowledge but have proven and effective pedagogical skills.

To maximize continuity and support for new educators, states should work with those engaged in preparation to better prepare teachers and administrators for the type of school and work environments where they are most likely to practice upon graduation (e.g., high-need schools) and to develop preparation-practice-school partnerships that follow graduates into induction. Teacher residencies and apprenticeships are another example of continuity and represent a strategy for maximizing integration of coursework with practice in a work environment in which the educator candidate learns on the job accompanied by a strong support system.

When everyone in the system is a learner, and teachers and administrators go through stages of development with the novice exhibiting different skills than those we expect from career-experienced educators, then it follows that educators will have their own personal professional learning plan as well. A coordinated support system especially for new educators should include not only mentoring but also orientation, administrative support, common planning time, new teacher/administrator seminars, an external network of teachers/administrators, a differentiated professional growth plan, and a reduced workload. This type of support of new teachers and administrators is vital to job satisfaction, retention, and educator quality, particularly in hard-to-staff schools.

2. Distributing the Talent More Equitably & Honoring Growth/Specialization

Once we have recruited the best and brightest into our system, we must ensure that we distribute the talent so that students who have the biggest barriers to learning are paired appropriately with the most highly skilled educators we have in the system.

Implicit in the name educator “development” system is the belief that teaching and leading is intricate and is highly skilled work that must be learned and develops over time. A good educator development system will recognize and develop leadership capacity from the moment a new teacher or new administrator enters the school. Therefore, we need to take those who are most skilled (and base this not on years in the system but on proven abilities to teach and lead) and place them where the need is greatest.

A critical feature of the 21st century learning environment is an expectation of customizing learning for each student to a degree never seen before. The goal is to move away from a standardized, one-size-fits-all approach whereby every student performs the same task at the same time according to a prearranged timetable. Instead we recognize the unique strengths and learning needs of each student based on a variety of summative and formative assessment data and afford them the opportunity to move through the curriculum at their own speed. What does it mean for the role of educators and their support system if every student has an individualized learning plan? This means we must honor differentiated roles and responsibilities and specialization as have been done in other fields, such as medicine. Additionally, collaboration, technology, and efficient management of resources have put this within reach but will require highly skilled teachers and administrators working together and in the hardest to staff environments to make it happen.

3. Supporting Our Educators throughout Their Careers

Different kinds of growth incentives are particularly important as we face the current challenge of how to nurture a new generation of educators who are not looking for a lifelong career in a single role. They are ambitious, collaborative, need constant feedback, and want to be included in decision making. An educator support system must be ready to offer them a variety of growth opportunities and career pathways with increased compensation for additional responsibility. We must also anticipate that some will not stay in the profession long term and have in place a core of professionals to minimize the impact on the system when the turnover happens. This also speaks to the system's need for effective use of succession planning.

No matter how long educators stay in the profession, they will need preparation and ongoing professional development and support around these key areas to meet high expectations and customized learning needs:

- how to teach with a focus on a skills-based curriculum
- how to personalize instructional strategies using new findings in research about how children learn
- how to design effective formative assessment practices for a skills-based curriculum and engage the learner in interpreting results, monitoring individual progress, and improving performance
- how to design learning environments and use new technologies to ensure each child is continually challenged and engaged and moving through the curriculum
- how to change or modify their teaching and leading based on what they learn from multiple assessment results in collaboration with colleagues
- how to collaborate and work as part of a "learning team" to address the individual needs of each student

The overriding goal is to empower learning at every level of the system to a new degree. In sum, everyone in the system is both a learner and an enabler of learning at high levels. This includes those who prepare educators (teacher educators and alternate program staff) and professional development providers who need to understand, keep pace with, and adapt to the rapidly changing landscape of the evolving learning environments in today's schools and newly created learning environments outside the traditional school building.

4. Instilling Success through Effective Collaboration

If we hope to build the skills-based, customized, and continuous learning environment, collaboration and teaming are an essential design principle of an educator development system.

Research clearly supports that effective schools are collaborative and team oriented; have a culture that facilitates effective teaching and learning; empowers teachers and includes them as part of decision-making structures; and are led by strong leaders. Leadership is being redefined as reflected in the movement away from individual leaders to an integrated systemic model that distributes key leadership functions across team structures at the state, regional, district, school, and even building grade levels. Administrators set the tone and environment for learning so their knowledge, skill, and willingness to think differently about how best to connect and leverage teachers, the community, and resources is critical. Teachers need teaming skills to orchestrate interdisciplinary project-based learning opportunities in which learners collaborate on complex tasks in real-world contexts to investigate and solve problems in hands-on environments. The new learning environment is an organic one in which students, educators, and others, including real-world subject experts, group and regroup both in person and online to generate powerful and new customized learning opportunities.

The implications of this kind of learning team delivery model are many. Are there new professional pedagogies inherent in this new learning environment—for example, a different kind or degree of modeling, coaching, or other strategies that enable learning and recognizes the student's role in co-constructing the learning experience? How do preparation programs find and choose real school settings in which educator candidates can learn these kinds of skills? Can we design settings to promote the learning of teaching and leading that are alternatives to real-world schools (e.g., virtual simulations)? [12]

A very important element of this design principle is the need for professional learning communities as a support strategy for continuous growth. These communities can be multilayered (content, grade level) as well as onsite and online. Administrators must recognize the importance of these collaborative opportunities and structure time for them. Professional development can be a key strategy in keeping in-service teachers and administrators up to date on the quickly evolving 21st century teaching and learning environment and how to be effective in it. Effective professional development is aligned with the state educator standards and instructional goals, is driven by the needs of students, is ongoing, is observed and evaluated by effectiveness, and is primarily job-embedded in daily work. Through these communities teachers and administrators work together systematically as teams, informed by multiple sources of data, to individualize learning so all students achieve and the overall system improves.

5. Holding Our Educators Accountable

In today's world, outcomes matter more than inputs. Whereas before we looked at educators' qualifications, characteristics, or certification, now we want to know what educators actually do in practice and whether it results in improved student learning. The key question is: Are teachers and administrators "effective?" With a renewed focus on practice and what works, it is imperative that an educator development system be designed to collect information across the continuum that can "grow" educators to a higher level of skill and effectiveness. These systems should include authentic, performance-based, practice-centered multiple measures that are embedded in daily practice, are technology-based to streamline input of information, and feed into a data system that allows for descriptive feedback loops and value-added analyses for the purpose of not only improving teacher and administrator performance but for personalizing and improving student outcomes and improving preparation programs.

[12] Ball, Deborah Lowenberg (2009). Presentation at American Association for Colleges of Teacher Education Annual Conference, Chicago, IL.

Traditionally teachers have been observed and evaluated by administrators and then rated. While classroom observation is important, we also need to employ structured protocols to analyze classroom artifacts and portfolios that can document a range of teacher behaviors and responsibilities (practice), teacher self-reflection, feedback from parent or peer surveys, and student learning gains (formative and summative data), all of which can be uploaded into an web-based digital system. Evaluation should be a tool to foster individual and team professional growth and improved performance, advancement, and organizational improvement. The system should align tightly with and be scaffolded on the state educator standards,[13] which should describe effective performance at each stage of an educator's career and thus provide a benchmark that can be used for assessment and professional growth purposes across the continuum. It should also promote equity and fairness and ensure reliability, validity, and consistency. This kind of information system would serve as the infrastructure of an educator development and support system. It provides an information flow that follows the educator and promotes continuous growth and improvement across the system.

Finally, if we are to honor continuous growth in our educator accountability system, we must look at how it plays out in the presence of differentiated roles and responsibilities for educators within and across the system.

Next Steps

Our chief committee on educator development will meet over the next seven months both face-to-face and virtually to further discuss the proposed design principles and to craft an action plan grounded in a vision of a collaborative and student-centered 21st century educator development system, set forth areas of greatest promise for collective action among states, and identify Council priorities in this strategic area for the next three years. As we review those design principles, we stand ready to identify what critical state leverage points and substructures must be in place to nurture and sustain this new system. That product, which will include a roadmap for building an educator development system, will be shared with CCSSO membership at the Annual Policy Forum in November 2009. The committee is additionally charged to craft a self-assessment tool that states can use to evaluate their system against the model system described in the policy statement. CCSSO will work with a group of innovation states interested in using the self-assessment tool to examine and change their system according to the model.

Simultaneously and in support of this committee work, CCSSO will continue to implement projects that are underway and seek support for the work of this strategic initiative. Those key action steps are

1. Update the INTASC model teacher standards, incorporating knowledge and skills in key areas such as child and adolescent development, brain research for learning, diverse learners, collaboration skills, and global and technology literacy. Work with national accrediting and advanced certification bodies to update and align teacher standards across the career continuum.
2. Create strategies and tools to help states move the updated model teacher standards, leadership standards, and leadership performance indicators and expectations, into policy and practice.
3. Support states in developing teacher and administrator performance-based assessment that is aligned with the updated standards.
4. Leverage and combine the convening power of three consortiums to further develop our work: Interstate New Teacher Assessment and Support Consortium (INTASC); State

[13] The state educator standards should be aligned with state student performance standards.

Consortium on Education Leadership (SCEL); and State Consortium on Teacher Leadership (SCTL). *Note: Since SCTL has completed its work, we plan to utilize their lessons learned and documents from their collaborative work.*

5. Capitalize on the lessons learned from CCSSO's rich history in providing direct technical assistance to states receiving cohesive leadership system (CLS) and aligned system of leadership development (ASLD) support from The Wallace Foundation.
6. Leverage CCSSO's Teacher of the Year network by utilizing the expertise of each state's State Teacher of the Year as a key stakeholder participating in this reform process.
7. Participate in the Strategic Management of Human Capital Taskforce (convened by the Consortium for Policy Research in Education), particularly its State Policies and Practices Action Subgroup, to ensure alignment of our strategic initiatives with their work.

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Comprehensive Data Systems

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Introduction

Data collection, accuracy, reporting, and usage for informed decision making have never been more critical than in this time of shifting global power and uncertain economic vitality. Around the world, other nations and economies have harnessed the power of data to transform their education systems to better serve students and drive system-level success, while America's investment in data systems still leaves timely reporting and real-time use of data to inform instruction and decisions always just beyond our grasp. These data are always just a few years away from having a real impact on teacher practice, always hinting at the ability to support the most effective policy determinations, and always residing on shifting state and national sands.

The time to establish sure grounding and substantial support for robust, meaningful, networked, public-access data systems that support our decisions and those of families, teachers, school administrators, state leaders, and national policymakers is, unquestionably, now. There are presently 50 different state data systems with little to no ability to directly communicate with one another, even as students move freely between those systems. Information sharing about a mobile student, best classroom practices, effective school strategies, or salient budgeting decisions is often conducted on an ad-hoc, relational level, with few instruments available for coordinated, systematic communication and analysis to spur decision making.

Chiefs have rightly identified the need for better data systems, and have worked hard with their respective state policymaking bodies—and with the agencies they direct—to build systems designed to address the critical gaps in the data pipeline. This work to date is admirable, and state-led transformational change efforts yield proof of the power of data to initiate and catalyze meaningful reform at all levels of the education enterprise.

But while these state and mainly context-specific efforts have produced a good beginning point, our work has just begun. We can no longer afford such disparity in outcomes. For the United States to remain a global leader, all of us must have ready access to critical information on the health of our education systems. To wait for each state to develop the definitions that undergird our very best data systems would be time consuming, expensive, duplicative, labor intensive, and wasteful. By bringing the states together, we can more readily share best practices and significant cost-savings in both real and human capital can be realized. As you know, we are uniquely positioned to lead a collaborative state effort that capitalizes on our historic efforts in developing common data definitions, chief leadership, and our collective strength as advocates in the education arena.

In the data arena, we have two broad goals—goals born of our mission statement. First, we will focus our energies on helping to build state education agency capacity to manage, support, and strengthen data systems, primarily by supporting and enabling effective collaboration among states. Second, the Council will work directly with its members and partners to strengthen the content, scope, usability, and brand of the former State Education Data Center (SEDC) into the State Education Data and Research Center (SEDRC) that we manage. CCSSO envisions the SEDRC and its companion website, SchoolDataDirect.org, as the premiere data resource for state education leaders, policymakers, researchers, and interested stakeholders.

In service of those two central goals, we believe a new generation of data systems can be realized through a focus on four major "next steps," summarized below.

1. Designing User-Friendly Systems
2. Enabling Better Policy Analysis
3. Motivating Better Use of Data
4. Continuing Present Efforts to Integrate Industry Standards, Streamline Collection Efforts, and Build P–20 and Multi-Sector Systems

Where We Are Now and Where We Must Go

1. Designing User–Friendly Systems

High-quality data are of little or no use if those data can not be accessed in a user-differentiated, intuitive, and high-functioning way. Through our convening of states in the Education Information Management Advisory Consortium (EIMAC), we are accumulating the collected wisdom of states, and the districts they serve, on the very best mechanisms for meaningfully conveying the messages that these data can share about practice.

Five years ago, we embarked on a journey to build and release a single national database of student achievement data, district and state financial information, demographic data, and other relevant data associated with student performance. This original effort—known as SchoolMatters.com—began with a simple premise: create a "one-stop shop" where education policymakers at all levels of the system could find and analyze data on their local schools and districts and make informed decisions for the future. The project launched four years ago and has evolved from SchoolMatters.com into SEDRC and its web-based user interface, SchoolDataDirect.org.

Currently SchoolDataDirect.org does not generate the kind of user traffic or enthusiasm among users that we originally envisioned. Some of you have told us that it adds little value to state work. As we've thought about these concerns, we've looked to other models of data representation—models with, frankly, more "wow" factor. These models have elegant, well-designed user interfaces that are easy to navigate and seem to let these data tell their own story. Colorado is one state that is leading in this area, and we plan to take their work to scale by bringing their well-designed interface to you with robust information systems that are often rendered inaccessible to a general audience.

As we emulate Colorado's exciting success in developing an enticing, state-of-the-art system with our own SchoolDataDirect.org, we are interested in going still further. New technologies—gadgets created by Google, and applications like Trend Analyzer—enable data to be displayed over time, elucidating stories in those data that are often obscured by a superficial look at raw numbers. These interfaces have excited audiences where we have field tested them. Moreover, they enable us to capture the effects of policy interventions in novel ways, bringing us to a second key innovation.

2. Enabling Better Policy Analysis

Through the work of creating the initial State Education Data Center (SEDC) and SchoolDataDirect.org, it has become clear that we must draw brighter lines between these data being collected and the policies these data can help inform and support. With advances in data collection and representation, the time has come to link performance data to policy data in ways

that help uncover the pathways to success and the pitfalls toward peril. Such data accessibility and transparency can move education stakeholders away from monitoring mere policy compliance to instead supporting cogent decision making aimed at maximizing student achievement. Therefore, we at CCSSO are committed to rethinking the current structure of the SEDC to that end.

Currently SchoolDataDirect.org, the public face of the SEDC, houses a great deal of student, financial, and demographic data, serving as a national repository of accumulated educational wisdom. With modifications to the site underway to streamline the transfer of federal student data and add the research component making it SED**R**C, SchoolDataDirect.org is poised to be the preferred place for education researchers by adding the research arm. With further enhancements and filters, SchoolDataDirect.org could also be the go-to place for longitudinal data for teachers, principals, and school-based practitioners interested in tailoring specific student instruction. But we wish to go still further, incorporating a wealth of contextual information into the SEDRC from existing and future CCSSO surveys on relevant policies instituted by districts and states—policies on student achievement, graduation rates, accountability, or curriculum, to name but a few. By weaving policy and data together under the SEDRC umbrella, we will be able to offer you, policymakers, partners, and practitioners at all levels keen insights on what works.

Once the right system is built, we will be standing at the ready to provide technical assistance so that you might access the full power of the new analytical tools to best serve students and state and district employees. Furthermore, the research base of our efforts will not be limited to work solely produced by CCSSO. We will work collaboratively with our critical partners who represent state policymakers—the National Governors Association (NGA), the Education Commission of the States (ECS), the National Association of State Boards of Education (NASBE), and the National Conference of State Legislatures (NCSL) —to be sure that we pool our knowledge effectively for making data-driven decisions in our educational efforts.

3. Motivating Better Use of Data

We all know that good data collection is not a good in and of itself. These data must be put to use. To that end, we want to model good behavior by analyzing the data we receive for possible suggestions of best practices, policy ameliorations, or instructional remedies.

Our proposed methods for acting as better data stewards are varied. We might, for instance

- collect the best work of the regional laboratories and comprehensive centers, amplifying their voices when findings are particularly generalizable or meaningful for a large target audience
- collect common questions from chiefs or SEA staff to
    - answer questions given data sets we have available to us
    - advertise questions to researchers, effectively issuing a call for papers
- work with our business partners to answer key questions posed by the data
- work with our business partners to automate the generation of research questions
- conduct a series of state road shows that highlight how to spot trends and support or reject policy hypotheses in “natural experiment” environments
- partner with universities and researchers on answering “big questions”

The products of these efforts could be shared at a stand-alone annual research conference or integrated into our three member meetings (Annual Policy Forum and Business Meeting, Legislative Conference, and Summer Institute).

4. Continuing Present Efforts to Integrate Industry Standards, Streamline Collection Efforts, and Build P–20 and Multi-Sector Systems

Integrating Industry Standards

Our work on integrating industry standards, streamlining collection efforts, and building multi-sector systems started over 25 years ago in concert with the National Center for Education Statistics. At that time, nothing common existed among our states with regard to data other than the national programmatic reporting requirements. As many of you know, we brought states together for discussions around common data definitions, drafting paper versions of today's online, electronic data handbooks. Now, in order for data systems to better connect and communicate, those definitions, and the relationships between various defined elements, must be embedded into our data systems.

Representations that map the relationships between defined data elements are termed "data models," and we with our contracting partners, supported by the U.S. Department of Education, are leading the way in building an exemplary national data model. A first version for the K–12 system is already in post-production phases, and planning for a new model that maps the P–20 trajectory is underway.

Our shared efforts to establish common data definitions and relationships must be vigorously supported. Common definitions are as essential to the world of education as they are to the worlds of medicine, business, or law. These industry standards support clarity of communication, transparency, accountability, and comparability—all necessary preconditions to our goal of an education system that delivers on the promise of providing educational opportunity to all students.

And while information sharing among various stakeholder groups in states—whether it be sharing between K–12 and postsecondary systems, or workforce and health care systems—can be governed by a state-designed architecture and unique sets of working arrangements, there are often common questions to be considered in sharing information. As you know, state education agencies, for instance, must be cognizant of student and family privacy, due in large measure to statutory language from the Family Educational Records Privacy Act (FERPA). Much confusion still exists among state attorneys general and agency officials about best data governance policies. Given our convening mechanisms and broad, 50-state experience base, we are confident that we can establish a set of data governance policies that help states balance the tension between providing information to all relevant stakeholders while maintaining the public trust with students and families.

Streamline Collection Efforts

We must lead and work together with the federal government and other national organizations to determine the essential elements of new data collections. Federal funds are being more closely tied to data reporting, but often the reporting requests are not streamlined into existing timelines and collections demanded by other program offices. In SEAs already overburdened by new demands, these uncoordinated data asks lead to an inefficiency and sometime duplication of effort, and often delay the timely reporting of essential data.

To ensure that high-quality data are ready for decision makers as they are needed, data collection efforts need to be streamlined. Relevant information should flow seamlessly from the classroom to the district, to the state, and to the federal government, and so-called "batch" submissions should be requested on common, agreed-upon timetables. Streamlining our work will mean that data will be both more accurate (since automated data flows mean less opportunity for injecting human error), and more timely.

Build P–20 and Multi-Sector Systems

We can no longer wait on aligning and linking data systems across the P–20 pipeline. According to the Data Quality Campaign (DQC), 22 states are currently beginning the process of aligning pre-K, K–12, and postsecondary data systems to better link, share, and use data. The need for such coordination is obvious. Within postsecondary institutions, remediation of first and second year students is becoming more and more common. There is a critical need for the K–12 system to understand where it is failing to prepare students for postsecondary success. There is also a need to understand what is happening with students before they arrive in the K–12 setting to better serve their unique needs. Finally, we must lift the veil of darkness on how students prepared in public education settings are performing in the world of work.

CCSSO believes that a shared and coordinated effort between CCSSO, the DQC, the State Higher Education Executive Officers, the National Center for Higher Education Management Systems, and others representing junior and technical colleges and the broader workforce is the first step in sharing and linking these systems into a powerful policymaking tool. Ultimately, our PK–20 data systems should also readily communicate with other critical databases that powerfully influence student achievement—health and human services, child welfare, labor, and juvenile justice.

Imagining still further into the future, we can create data systems truly capable of linking to an international benchmark. We are interested in pursuing novel, exploratory partnerships with other nations to elucidate the challenges and the opportunities posed by an international data system.

If we harness the power of the coalition of organizations that we have mentioned previously, we will be able to more readily take the necessary steps to identify and embark on implementing the key technical strategies for building these broadly connected systems. The resulting data policies in working together must

- ensure interoperability among all education data systems
- build cross-agency governance policies that frame how data are shared, reported, and used
- balance the sharing of relevant data with current privacy protections
- ensure data across all levels are accessible by researchers to better assist them in better informing the policymaking community

Conclusion and Next Steps

We believe our four-step data agenda, leveraging our previous work in this area, will create the data systems we know are now needed in order to foster student success. By having such next-generation data systems, we can more readily meet individual student needs in a more customized learning environment; utilize those assessment data collected; learn from the impact of policies, laws, and regulations; and improve educators' understanding of what student skills

are necessary for success in a 21st century democracy and international economy. These systems will help us understand where curricula need to be updated, coursework revised, and professional development targeted. The need for further investment in data systems to provide more timely information and impact practice is clear.

The challenges that lie before us are numerous and significant but hardly insurmountable. Through the collective action of states, in collaboration with the federal government, we can forge working partnerships that will ensure the creation of world-class data systems capable of relaying information that is reliable, timely, accurate, and actionable. Our students *deserve* nothing less; our nation *requires* nothing less.