The Four Building Blocks of High Performance Education Systems

DRAFT

This document represents a second revision of NCEE’s *9 Building Blocks for a World Class Education System.* The original document was a distillation of what we observed over 30 years of international benchmarking of high-performing education systems. Its goal was to identify strategies commonly used by those countries to outperform the United States, in the hope that American policymakers could use this research to shape their own reforms.

The first revision of that document, *Principles Underlying Global Best Practice, with Examples of Benchmarking Policies and Practices*, updated the findings of the original document and added selected examples of each building block. This version, *Four Building Blocks of High Performance Education Systems*, consolidates the nine blocks into four. It was updated to reflect the results of continuing research as well as to be of use not only to the countries that hope to learn from the top performers but also to the top performers that hope to learn from one another.

This version benefits from an extended reflection on the previous version by representatives of the seven jurisdictions involved in the joint OECD-NCEE High Performing Systems for Tomorrow (HPST) project as well as the observations of a group of global experts on national learning systems assembled by NCEE to assist in the design by the Australian Council for Educational Research of an international comparative study of national learning systems. For this first draft we have not included jurisdiction examples (or benchmarks) but we will in a subsequent version, following a full vetting of this draft of the top-level framework.

A note about what this is and what it is not. The elements in this revised framework are what we have observed to be commonly associated with high-performing systems. It is, in our view, a provisional set of findings that we intend to use to guide further research. We have not found all of these elements in all of the high-performing jurisdictions nor are all of these elements equally strong in each high-performing jurisdiction. A jurisdiction can, at least to some degree, compensate for this weakness in one building block with exceptional strength in one or more others. Thus, this document should be viewed not as a checklist of discrete elements but as a description of complete systems whose parts and pieces interact in complex ways.

In subsequent versions of this framework, we plan to provide a range of examples for each building block as well as a discussion of interaction effects among the building blocks. Because we expect this framework to be used to draw conclusions about the causes of outstanding performance in national education systems, it will be important not just to identify principles and strategies that are associated with high performance, but also to establish that these principles are not found and these strategies are not used to the same degree or in the same way in countries whose students perform at substantially lower levels. For that reason, the next version of this document will include descriptions of lower-performing national, provincial and state education systems using the same conceptual framework.

One last point. We have used performance on the OECD PISA assessments as our metric for student performance. We are very much aware that virtually all of the top-performing nations have aims for the learning of their students that are very important to them that are not measured by PISA. One of the aims of our research is to describe what those aims are, how the top performers are measuring them and how they hope to measure them in the future. For now, PISA is arguably the most highly used and most highly regarded measure available for comparing the performance of students among the nations of the world. But it is entirely possible that, if other measures of other qualities in students were used to compare student performance among the nations, the list of top performers may be different as might a description of the strategies that had made them so successful. It follows that this document will always reflect a changing picture and should—if it is done well—always be useful, but will never be definitive.

## BB One: Learning System Built on a Powerful Curriculum Taught Well

* An aligned, coherent, engaging curriculum is set to high standards and matched to assessments that measure the fullest possible range of desired cognitive and non-cognitive outcomes;
* Qualification systems are matched with pathways and gateways that provide strong incentives for effort and achievement;
* Learning pathways all integrate applied learning and rigorous academics, whether leading to vocational or academic qualifications; and
* Systems monitor the progress of every student closely and provide just the kind of support or enrichment required to keep students challenged and on track to high levels of achievement.

## BB Two: Schools with High-Quality Teachers and Leaders Who Organize Work for High Performance

* Teacher candidates have strong academic backgrounds and the right dispositions for teaching, and are trained in rigorous, clinically focused programs;
* Compensation is set at levels comparable to high-status professions requiring similar academic qualifications;
* Careers are structured to reward increasing expertise, collaboration, mentoring and leadership; and
* Work is organized to reward and support the continuous acquisition and sharing of expertise, consistent with the best research on high performance work organization in the professions, business and industry.

## BB Three: Resources Used to Make Sure All Achieve at High Levels

* Financial and human resources are distributed to ensure that all students have opportunities to achieve at high levels, independent of background;
* Families with young children get comprehensive and high-quality early childhood education and care to ensure that children arrive at school healthy and with the cultural knowledge and skills to succeed; and
* Additional social, health and related services are available in schools for students who need them to achieve at high levels.

## BB Four: Strong, Stable Governance with Highly Competent Officials and Clear Accountability

* A rationally organized governance system has appropriate functions assigned to each level and a unified center that has the authority and responsibility for the system as a whole;
* The “center” is staffed by officials widely viewed as highly competent;
* Accountabilities are clear and well distributed, from the individual teacher, student and parent to the jurisdiction’s lead agency, and the system provides strong incentives for all actors to perform at high levels;
* Legitimacy of direction is grounded in widespread, extended consultation with public, business, higher education and many others; and
* There is commitment to the kind of stability in policy that is required for long-cycle planning which builds on this public consultation, benchmarking and future-oriented continuous improvement systems.

## BB One: Learning System Built on a Powerful Curriculum Taught Well

***An aligned, coherent, engaging curriculum is set to high standards and matched to assessments that measure the fullest possible range of desired cognitive and non-cognitive outcomes.***

Top-performing jurisdictions:

* Set standards for student performance in a relatively broad set of subjects, typically including their native language, the sciences, mathematics, technology, history and music and the arts;
* Include, where appropriate, examples of student work that meets the standards so that all students, parents and teachers have the same understanding of what the standards mean;
* Establish a progression through the subject based on these standards that is logical (that is, the study of each topic is preceded by the study of the topic or topics which must first be mastered to master the target topic, and the schools are expected to teach those topics in that order);
* Specify syllabi for the courses to be taught in the schools based on those standards and progressions;
* Structure the curriculum to strike the right balance between the amount of structure and specification needed to ensure all students an equal opportunity to learn, on one hand, and enough flexibility for teachers to structure what is taught and how it is taught in ways that are best matched to the needs of their students;
* Set external assessments matched to the standards, and to the syllabi in cases where there are jurisdiction-wide syllabi, along with a robust internal assessment system;
* Craft assessments not just to measure recall of facts and mastery of basic skills but to capture, to the extent possible, the ability of the student to analyze newly presented material, synthesize material from many sources to address complex, real world problems never seen before, demonstrate mastery of the concepts underlying the discipline studied, apply what has been learned to new challenges and, in general, demonstrate a capacity for thoughtful, fluent, informed use of the material studied; and
* Identify: a set of non-cognitive attributes such as leadership ability, ability to contribute to a group, grit, creativity, and a propensity to do the right thing when no one is looking; a set of experiences that schools are expected to offer to develop those attributes; and a set of measures of the attainment of those attributes that schools use to measure and report progress.

***Qualification systems are matched with pathways and gateways that provide strong incentives for effort and achievement.***

Top-performing jurisdictions:

* Delineate the points at which progressing further in one’s education or going into specific careers after leaving school depends on having taken particular courses or having certain applied learning or work experiences and, on the basis of one’s performance on examinations or demonstrations of expertise, meeting specified conditions for moving down a particular pathway to further education or work;
* Develop assessments described above and implement a system for administering those assessments and reporting results;
* Specify the credentials to be awarded when a student meets the requirements for a qualification, and the pathways made available to the possessors of that credential;
* Secure agreement from the entities offering programs at each level of a given pathway that they will honor the credentials issued to successful completers of the prior step in the pathway; and
* Design an integrated structure for the system of qualifications, gateways and pathways and for the release of information about student success rates that provides all students with strong incentives to study hard to obtain credentials and for parents and teachers to help them do so.

***All learning pathways integrate applied learning and rigorous academics, whether leading to vocational or academic qualifications.***

Top-performing jurisdictions:

* Design a learning system, including a set of pathways and gateways, based on the assumptions that:
  + Students engaged in vocational education and training pathways, not just those engaged in academic pathways, must meet high academic standards;
  + The academic pathways include abundant opportunities to engage in applied learning; and
  + Students have opportunities to move easily between pathways leading to academic or vocational qualifications; and
* Ensure that pathways leading to vocational qualifications offer substantial opportunities for students to learn in settings just like those that they will work in after leaving school, under the supervision of instructors who are highly skilled in state-of-the art techniques, on assignments that matter, gaining not only knowledge and skill but the opportunity to mature and to learn what is expected of them in high performance work places.

***Systems monitor the progress of every student closely and provide just the kind of support or enrichment required to keep students challenged and on track to high levels of achievement.***

Top-performing jurisdictions:

* Use formative assessment and other screens to closely monitor every student and require teachers to meet to discuss student performance across classes;
* Commit to early and ongoing screening for learning difficulties with a focus on early intervention to prevent students from falling so far behind that they can no longer catch up;
* Organize a range of flexible supports and programs for struggling students that can start, stop or change as needed; and
* Ensure that all students, including gifted ones, have access to learning experiences that will challenge them, no matter their level of achievement.

## BB Two: Schools with High-quality Teachers and Leaders Who Organize Work for High Performance

***Teacher candidates have strong academic backgrounds and the right dispositions for teaching, and are trained in rigorous, clinically focused programs.***

Top-performing jurisdictions:

* Set academic requirements for becoming a teacher to levels comparable to high-status professions by making entrance into teacher preparation very competitive, setting a rigorous entrance test and/or limiting teacher education to research universities;
* Screen for other dispositions the nation wants in its teachers, like a passion for teaching and a gift for relating to young people;
* Intentionally recruit candidates who can relate to the life experiences of the students they teach;
* Require teacher preparation institutions to prepare teachers to teach the national curriculum students are required to take; give teachers the basic research skills needed to research global best practice and conduct action research in the schools; and prepare teachers to be excellent diagnosticians of student problems to be effective members of and contributors to the teams in which they will work when they begin teaching;
* Require teacher preparation programs to offer clinically focused programs that give candidates one year or more in schools practicing progressively more challenging skills under the guidance of an experienced, trained mentor with the time and capacity to give them meaningful feedback; and
* Ensure that teacher education is competency-based and exiting teacher education and/or earning a license requires a meaningful demonstration of mastery of craft.

***Compensation is set at levels comparable to high-status professions requiring similar academic qualifications.***

Top-performing jurisdictions:

* Benchmark teacher salaries against the salaries of other high-status professions requiring similar academic qualifications (e.g., a four to five-year degree from a prestigious institution) and regularly adjust teacher salaries to meet those benchmarks; and
* Offer additional benefits comparable to those enjoyed by high-status professions, which may include tuition reimbursement for undergraduate studies and bonuses for teaching in high-need areas.

***Careers are structured to reward increasing expertise, collaboration, mentoring and leadership.***

Top-performing jurisdictions:

* Create career ladder structures within the teaching profession (whether formal career ladders or more flexible career progressions) so that teachers are rewarded with greater responsibility, flexibility and compensation for acquiring more expertise as teachers, becoming progressively stronger contributors to the work of their teams, earning strong skills as mentors to new or less capable teachers, becoming highly competent at leading research, and moving into teacher and school leader roles; and
* Structure financial incentives to reward the continuous acquisition of new expertise, rather than merely more experience.

***Work is organized to reward and support the continuous acquisition and sharing of expertise, consistent with the best research on high performance work organization in the professions, business and industry.***

Top-performing jurisdictions:

* Use a “knowledge-work” professional model of work organization in which teachers are expected to have deep professional competence and exercise broad discretion, working in teams and accountable to team members for the quality of their work; and
* Have leaders who organize schools so that teachers are expected to play a crucial role not just in teaching the student in the classroom but in running the school as a fully contributing professional; this typically involves reducing the time teachers are expected to be directly teaching in classes and increasing the time in which teachers are planning together, developing lessons and assessments together, observing and critiquing each other’s work, working with individual students who need extra help or small groups of such students, interacting with adults outside the school whose activities have a bearing on student performance and engaging in their own professional development.

## BB Three: Resources Used to Make Sure All Achieve at High Levels

***Financial and human resources are distributed to ensure that all students have opportunities to achieve at high levels, independent of background.***

Top-performing jurisdictions:

* Design funding systems that invest more in students, especially disadvantaged students, who will need more help to reach high standards than in those who will need less help;
* Deploy teachers in ways that ensure that the neediest students are taught by highly qualified teachers and not taught by the least experienced teachers; and
* Assign additional teachers or specialists to schools with students who need more support so those schools have the flexibility to offer individualized, small group or differentiated forms of support or tutoring.

***Families with young children get comprehensive and high-quality early childhood education and care to ensure that children arrive at school healthy and with the cultural knowledge and skills to succeed.***

Top-performing jurisdictions:

* Provide generous financial supports to enable all families to provide for young children, including paid maternity and parental leave, and comprehensive health and medical care for all families and young children that includes early screenings for developmental and language issues;
* Ensure affordable, accessible and flexible child care for working parents and others who need it, staffed by a mix of well-trained early education professionals who can provide a developmentally appropriate learning environment;
* Envision early childhood education as part of a unified coherent education system that stretches from early childhood to young adulthood and beyond, and is structured around a learning framework that aligns with the primary school curriculum and includes a structured transition to primary school; and
* Ensure teachers and staff in early childhood education and care programs are highly and appropriately trained for their work and have the same kind of opportunities for ongoing learning and leadership available to compulsory school teachers.

***Additional social, health and related services are available in schools for students who need them to achieve at high levels.***

Top-performing jurisdictions:

* Coordinate access to needed social services to enable all children to succeed in school;
* Expect teachers to work with other school professionals to identify students who may need services and extra supports;
* Provide funding for both school-based enrichment opportunities and non-school-based enrichment opportunities for disadvantaged students to ensure that they have similar opportunities as more advantaged students; and
* Train all teachers to ensure that they have the expertise to identify when students are facing challenges, refer those students to appropriate experts for support, be aware of and reflective about their own biases, and employ culturally responsive pedagogy.

## BB Four: Strong, Stable Governance with Highly Competent Officials and Clear Accountability

***A rationally organized governance system has appropriate functions assigned to each level and a unified center with authority and responsibility for the system as a whole.***

Top-performing jurisdictions:

* Ensure that roles of each level of government are clear and complementary rather than in conflict with roles at the same level or those above or below;
* Make it clear where responsibility for the health and effectiveness of the whole education system as such lies, while at the same time coordinating closely across agencies responsible for related activities, such as support to families with young children, child care and early childhood education; social services and health services; juvenile justice; economic development and manpower planning; higher education; and business; and
* Provide for appropriate levels of professional autonomy at the school level while at the same time reserving for the center the authority needed to define the aims of the system and create the structures needed to achieve those aims.

***The “center” is staffed by officials widely viewed as highly competent.***

Top-performing jurisdictions:

* Attract and retain education professionals widely viewed as competent who have the technical, political and social skills needed to design, sell, lead and implement complex and constantly evolving education and training systems of the kind that jurisdictions will need as globalization continues and new digital technologies advance; and
* Ensure that leaders of the education system have both deep experience within the education system at many levels and a broad perspective on their responsibility to many sectors of society.

***Accountabilities are clear and well distributed, from the individual teacher, student and parent to the jurisdiction’s lead agency, and the system provides strong incentives for all actors to perform at high levels.***

Top-performing jurisdictions:

* Provide as much flexibility as possible for the schools and local officials to decide how to get their students to high standards but be prepared to hold them accountable for their performance, limiting their flexibility and authority if their students are not performing at expected levels;
* Design mechanisms to report on the success of the education system, using a range of thoughtful metrics that go beyond test scores, to the public, to parents and to the business community and employers and for the different parts of the education system (early childhood, primary and secondary, higher education) to be accountable to each other; and
* Provide incentives and support to leaders of high-performing schools to mentor and support the leaders of low-performing schools and provide incentives for outstanding teachers to help teachers whose students are not performing well.

***Legitimacy of direction is grounded in widespread, extended consultation with public, business, higher education and many others.***

Top-performing jurisdictions:

* Promote extensive public conversation about the aims of education and the strategies to achieve these aims, which require the design of planning methods that are highly inclusive, yet capable of producing complex, coherent and comprehensive designs.

***There is commitment to the kind of stability in policy that is required for long-cycle planning which builds on this public consultation, benchmarking and future-oriented continuous improvement systems.***

Top-performing jurisdictions:

* Are able to provide an environment in which polices are stable for long periods of time, enabling long-cycle planning and careful implementation of complex policies over decades.