



GLOBAL Education Study

Six Drivers of Student Success

A Look Inside Five of the World's
Highest-Performing School Systems

Battelle *for Kids*

ACKNOWLEDGMENTS

Thank you to the following organizations who helped support the distribution of this monograph or activities at the Global Education Summit in Columbus, Ohio, November 5, 2012. This work will inform the development of future resources for educators. To learn more, visit www.BattelleforKids.org/go/global.

Cleveland Foundation

Columbus Partnership

Martha Holden Jennings Foundation

Pearson

School Improvement Network

University of Cincinnati

Note: This monograph reflects the personal viewpoints of individual Global Education Study team members as well as information gathered by Battelle for Kids during the Study in the spring of 2012 and does not reflect the official content from the school systems profiled within the piece.

Contributing monograph writers: Dr. Jim Mahoney, Dr. Brad Mitchell, and Dr. Judy VanVoorhis, Battelle for Kids, as well as Dr. Tom Lasley, University of Dayton.

© 2012, Battelle for Kids, All Rights Reserved.

TABLE OF CONTENTS

Introduction.....4

A Snapshot of Five of the World’s Highest-Performing School Systems7

Learning

Student Success Driver 1: Early Learning8

Student Success Driver 2: Personalization and Pathways for Student Success.....12

Teaching

Student Success Driver 3: Teacher Selectivity, Quality, and Growth17

Student Success Driver 4: Focus on Learning.....21

Conditions of Success

Student Success Driver 5: Education Linked to Economic Development.....24

Student Success Driver 6: Cultural Expectation of Value.....27

Learning and Collaborating Across the Globe31

Appendix

Student Success Driver Definitions.....32

References.....35

INTRODUCTION

There is a story often told of a farmer who wins at the County Fair each year for several best crops. When asked the secret of his success, he surprises people with his answer. The secret, he says, is that he shares his best seeds with his neighbors. He further explains that, with winds and proximity, if he didn't do this, the cross pollination would do damage to his crops; but in this way, the farmer protects his own and elevates that of his neighbors. It was in this same spirit that Battelle for Kids decided to learn from the highest-performing school systems in the world. What were the common seeds that might be planted in America?

In the fall of 2011, we began researching which school systems were the finest in the world. We wanted to know, given the best data available, what systems continuously achieve the highest performance for their students. These were the places that had remained exceptional despite leadership changes, a changing world context, and turnover of staff over time. They had seemed to institutionalize high performance. We weren't looking for a single year's worth of great improvement, but rather those systems whose students were improving while remaining at a high level of achievement over multiple years.

What is a High-Performing System?

We define a high-performing system as one in which low-performing students perform not much differently than top-performing students, and where family socioeconomic status is not a significant driver of student performance. High-performing systems are in the top ranks on quality, equity, and productivity and recognize the importance of international benchmarking.



Ultimately, we choose *Finland; Hong Kong; Long Beach, California; Ontario, Canada; and Singapore* from a larger list of high-performing systems.

These are five of the 12 high-performing school systems ranked as “sustained improvers” that have seen more than five consistent rises in student performance across multiple data points. Criteria for the five sustained improvers are that they participated in national and international assessments (e.g., Trends in International Mathematics and Science Study (TIMSS), Programme for International Student Assessment (PISA), National Assessment of Educational Progress (NAEP), and Progress in International Reading Literacy Study (PIRLS)) with sustained gains of five years or more of improvement with at least three data sets in an upward trend across multiple subjects and/or assessments and with significant gains.

Our goal was to visit these places and see, firsthand, what seems to account for their unique, continued success. If a picture is worth a thousand words, then a visit is worth much more. We invited people from Ohio who viewed education from different vantage points to join us in what can best be described as a learning adventure. Our partners in this journey included leaders from the teachers’ unions, charter schools, higher education, school boards, and the business community, as well as superintendents and school business officials.

At the center of our journey was the quest to answer the questions: “What did these school systems do that seemed to account for extraordinary student success? What were the drivers of this sustained performance?”

During the spring of 2012, five different teams made three-day, on-site visits with the leaders of these school systems. The teams visited schools, observed classrooms, and learned what teachers do, how they do it, and the different policies that guide student success.

While there remain great differences within and among systems, there were six common drivers leading to student success.



These systems’ success manifested itself into student and community benefits.

This monograph is a thoughtful reflection of our learning. There is no magic bullet to dramatically improve student achievement. There are differences among schools within countries and certainly across them. In some cases, it would be impossible to make changes without becoming more like the culture itself. But above all the noise, there is a consistent pattern in these drivers of success.

The monograph outlines these drivers in detail to give readers the necessary background to understand what we learned before jumping to immediate application. With limited resources, we can’t keep making bets that may or may not work. This monograph highlights some practices that have led to outstanding results for students.

Each driver of success is addressed through a systemic approach grounded in **FOCUS, ALIGNMENT**, and **FEEDBACK**. These school systems are disciplined to maintain **FOCUS** on their goals for improvement. **ALIGNMENT** refers to the practices they use systematically to maintain the focus, and **FEEDBACK** is how they use information to drive desired results, behaviors, and investments.



HONG KONG

FOCUS • ALIGNMENT • FEEDBACK

Another way to understand this systemic approach is to consider:

- **FOCUS** as “the what;”
- **ALIGNMENT** as “the how;” and
- **FEEDBACK** as “the how we make it better.”

At the end of each section is an “In Summary” page that highlights key findings for each driver of success illustrated through the lens of **FOCUS**, **ALIGNMENT**, and **FEEDBACK**. Also on these pages, essential questions are proposed for educators to consider related to their own experience and how they can improve the future of student learning.






Despite the enormous complexity of developing young people in any culture, there are lessons from these trips that we must consider in the U.S. if we want to improve the educational performance of all students. While our measure to identify the high-performing systems rested largely on sustained student achievement, we also know that we are not engaged in a quest to become the world’s best test takers.

Unwrapping these stories demonstrates how education is linked to the economy and that the cultural value we place on its role within our society counts. We talked to countless practitioners about what they do each day to help their students. Superior performance may be described simply, but we know the execution of it is anything but simplistic. The fact that we visited countries across the world is testimony to the shrinking world itself.

Our students will no longer compete for jobs across the county, state, or country, but rather across the globe. We are, indeed, preparing children for a world that is distinctly different from the one many of us grew up in. While children may represent 25 percent of our population, they represent 100 percent of our future.

It’s our hope that by reading this piece and thoughtfully discussing its implications, we can improve our policies, practices, and most of all—our students’ performance. We also hope that this monograph will encourage a commitment to creating pathways for the unique success of every child because student performance is inextricably linked to our economy, to individual student lives, and to our future as a society.

A Snapshot of Five of the Highest-Performing School Systems

	 FINLAND	 HONG KONG	 LONG BEACH, CA	 ONTARIO, CANADA	 SINGAPORE
Population	5,359,538	7,136,300	462,257	13,372,996	5,183,700
Students	561,000	972,200	83,000	2,061,391	498,563
Schools	3,170	2,263	84	4,931	356
Types of Schools	Finnish and Swedish publics; very few private schools	Government, government-aided, direct subsidy, and private schools	Public, private, and charter	5,000 public schools; 4 types: English public, English Catholic, French public, and French Catholic; 971 private schools	Public schools: Government and government-aided schools; some independent schools. Very few private schools
Focus on Children	All children	All children	All children	All children	All children
Preschool	8 months–6 years (play-based)	3 months–2 years (playgroup); 3 years (kindergarten)	Early start program ages 3–5 years provides assessment services	Full-day kindergarten; Education Ministry has responsibility for childcare programs—licensing begins 2012	Private—like U.S. (community foundations, business, faith-based, and social organizations)
Intervention	Early, often, and for all kids; non-punitive part of the instructional process	After school remediation (private tutors)	Intervention preschool upward	Early, often, and for all kids; non-punitive part of the instructional process	Part of instructional process; after-school remediation by teachers or private tutors
Assessments	In basic education, sample-based assessment of learning outcomes in different subjects, no ranking lists	Chinese, English, math, and liberal studies in DSE	Standard U.S. assessments and year-round schools	Assessments of students so school and teacher can adjust instruction	Various school-based assessments throughout the year; national examinations at the end of key stages
Teacher Education	1 in 10 applicants selected	95–100% have a bachelor's degree; requirements now more rigorous	Teachers and adjunct professors at local colleges help find teacher talent	Top third of college cohort	Selected from the top 30% of cohort
Per Student Expenditure OECD.org	\$7,092–\$8,659	\$6,047–\$6,814	\$9,982–\$12,097	\$7,648–\$8,388	\$7,491–\$9,092

Information gathered from several sources, including the Organization for Economic Cooperation & Development (2010).
Confirmed by a leader from each school system.

LEARNING

Student Success Driver 1: Early Learning

High-performing countries invest in early learning (birth to age five). They know investing in early learning contributes to the development of highly skilled, knowledgeable, and caring citizens who add to a strong economy and save money in the long run in comparison to those who try to catch up in primary grades and beyond. Historically, most U.S. education systems try to “repair” learning problems in primary grades, with an emphasis on intervention rather than prevention.



School systems in **Finland; Hong Kong; Long Beach, California; Ontario, Canada; and Singapore** demonstrate their value of education as a human right linked to their future economy. In these systems, the focus of all goals and decisions demonstrates that children of all ages, birth through grade 14, matter, and educators have responsibility for each child’s success.

Finland, Ontario, Hong Kong, and Singapore have early and regular intervention for children with learning disabilities and equitable funding of schools throughout their educational systems. The difference between the emphasis that schools in the United States place on testing and accountability and the **Finnish** educators’ emphasis on each school’s ability to cope with individual differences and social inequality is driven by a **FOCUS** on excellence and equity, respectively.

The early learning experiences students have before first grade are a critical step to strengthen school readiness and to close the achievement gap. The development of language and literacy skills in a child’s first language is important, including listening, speaking, oral language, reading, and print expression. Research also suggests that learning two languages at a young age benefits the brain through the increased density of brain tissue in areas of language, memory, and attention (www.preschoolcalifornia.org).

While most U.S. educators believe in and value early learning, they may not be aware of its impact. As early childhood education enters its “golden years,” 30–60 percent of young children in the United States are not ready to be successful when they begin kindergarten. Quite simply, they are not ready to learn. Of the U.S. children who drop out of high school, half were behind before entering kindergarten. Half of those children never make up their achievement gap.

Early learning in high-performing systems makes a huge difference for a child’s entire education, with early diagnosis of needs through intensive, free interventions with teachers who possess a clear understanding of what each learner needs for academic success, and knowledge of how best to **ALIGN** classroom experiences and formative instructional practices to foster each student’s growth.

Many high-performing school systems have created a reinforcing cycle of **FEEDBACK** and support with consistent policies in place that channel funding to support their commitment to reach every child. They have raised the bar to encourage the highest achievement for all students, and have closed the gap to help all students learn.

Extensive research has shown the value of early education in academic and social progress. However, the United States does not equally provide state-funded, high-quality preschool for all. Pre-K children participate on a voluntary basis in programs that do not have a coherent governance, funding, or implementation structure.

According to the National Institute for Early Education Research, Ohio has had the largest drop in the nation in public preschool enrollment over the past decade. How do we let this circumstance continue when economic studies find that early intervention is critical to the development and long-term success of all students? Why have we made only marginal progress in providing all children and families with access to early learning opportunities that so greatly impact our nation's economic and education future?

The United States is known for researching and using excellent teaching and instructional practices, such as inquiry learning. High-performing school systems have implemented classroom innovation and school improvement practices developed and researched in the United States. Cooperative learning, mastery learning, inquiry, and formative assessment, Response to Intervention, Invitational Learning, and portfolio assessment are a few examples of the United States' contributions to the world's educational system.



The United States has many excellent schools and teachers. The difference lies, in part, with its policies that cohesively and continually support high-performing systems for every school and every child. As Secretary of Education Arne Duncan said at the National Association for the Education of Young Children Annual Conference & Expo in 2009, "If we are to prevent the achievement gap and develop a cradle-to-career educational pipeline, early learning programs are going to have to be integrated with the K–12 system."

Studies have found that early intervention for young, at-risk children increases retention rates and academic achievement. We know children who struggle with reading in grades 1–3 are at a serious disadvantage. They increasingly fall behind in other subjects and are more likely to drop out of school. The Perry Preschool Study found that "...one dollar invested in high-quality early childhood education programs by policymakers results in a return of seven dollars in preventative costs associated with incarceration, truancy, school dropout, and teen pregnancy" (Stegelin, 2004). Birth-to-three preventive strategies include placing infants and toddlers in stimulating, developmentally appropriate environments for part of each day and training family members to help their child's development.



Finland is known for its systematic **FOCUS** on students with special needs with an aligned instructional delivery system. **Finland** values early recognition of learning difficulties and social and behavioral problems with appropriate professional support provided to young people as early as possible.

Finland's inclusive "special education strategy" has up to half of the students in part-time special education with minor dysfunctions in speaking, writing, reading, mathematics, or foreign languages at some point before completing the nine-year basic school. Thus, the proportion of students in special education in the primary grades is higher, but the need for special education decreases as students age.

The special education paths have individualized learning plans that may follow the regular or adjusted curriculum. One path provides permanent special education either in the student's school or in a separate institution. Remediation occurs at a timely point in the learning process, and the student receives feedback that helps him/her learn content at a point before he/she experiences failure in the classroom.

The United States provides many essential supports, but these offerings and services do not impact all children and families in need. This is where our statewide system has regressed in equity for children age one through high school graduation. As many as half of our children who enter first grade are one or more years behind in terms of language and social emotional development.



Ontario has a major financial commitment (\$300 million) that provides full-day early learning for young children. This goal requires government, community, and school support. To close the literacy gap, **Ontario's** early learning bridges the kindergarten gap by operating Parent and Family Literacy Best Start Hubs for children from birth to age five and their parents. This approach bridges the entry-level gap often seen among kindergarteners.

Caregivers are engaged from the start and tend to stay connected as a result, impacting their child's success. They offer guided, intentional play-based learning that promotes school readiness and parent engagement. Full-day junior and senior kindergarten will be phased into **Ontario** by 2015. This gift of time and resources, primarily for summer and fall birthdays, will provide a two-year kindergarten experience, as needed.

All of the high-performing school systems we studied have discovered ways to build in processes for parent and community engagement, believing that early childhood education is a part of the community. These systems have established supporting conditions for early learning through secondary school learning with a **FOCUS** on child development, equity, arts, character, professional learning, and leadership. Personal and social development and academic achievement dovetail to provide early learning that is nurturing, **ALIGNED**, hands-on, stimulating, exploratory, and integrated across the disciplines. In **Hong Kong** and **Finland's** systems, the importance of parent involvement is demonstrated by having parents observe lessons and discuss with the teacher and other educators.



Many of these systems have internal structures of support (e.g., welfare state) that play a crucial role in providing children and families with equitable conditions for success. More than 95 percent of children attend preschool, and comprehensive health services and preventive measures begin before starting school. In several high-performing school systems, free lunch is provided every day for all students—regardless of their home socioeconomic situation.

Finland's strategy selectively employs and trains teachers in research, child development, and diagnosing children with possible learning and development deficiencies. Then, they provide support with a regular cycle of early intervention and prevention with families at no cost. To prevent young children from being ranked on their educational performance too soon, grade-based assessments are not normally used during the first five years of school in many high-performing school systems. All children in **Finland** have, by law, access to childcare, comprehensive health care, and preschool in their own communities. Since education is a human right, **Finnish** schools are funded based on a formula guaranteeing equal allocation of resources to each school regardless of location or the wealth of its community. Every school must have a "welfare team" to advance child happiness in school. All education from preschool to post secondary is free for anybody living in **Finland**—making higher education affordable and accessible for all.



We know socioeconomic status has a significant impact on achievement, and high-performing school systems have found ways to address these issues. Most **Singapore** preschools are privately funded, but the government provides funding for schools with low-income students. **Singapore** has identified families in need and provides a range of support during early learning years with intensive, daily systematic intervention beginning in first grade. Finally, **Singapore** has a flexible system that values and channels funds and resources to low-achieving students.

The **Hong Kong** system is very similar to **Singapore's** insofar as most kindergartens are privately funded. The **Hong Kong** government also provides funding to strengthen its support to parents and provides incentives for professional upgrading and self-improvement.

Since **Hong Kong** introduced the Pre-Primary Education Voucher Scheme, an average of some 85 percent of kindergarten children have benefitted from the voucher subsidy annually.

Student Success Driver 1: Early Learning

IN SUMMARY

FOCUS

- Focus on the well-being of all children starting well before kindergarten and throughout grades K–14.
- Focus on parents and community engagement—believing early childhood is a part of the community.
- Focus on the whole child, the arts, creativity, and life-long skills.

ALIGNMENT

- Provide systematic attention to students with special needs, diagnosing where children are, and providing continual interventions aligned to individual needs.
- Develop aligned instructional delivery systems.
- Share stellar teacher-developed lessons aligned to core curriculum across the system.

FEEDBACK

- Ensure that remediation occurs at a timely point in the learning process, and the student receives feedback that helps him/her learn content at a point before he/she experiences failure in the classroom.
- Reinforce a cycle of feedback and support with consistent policies in place that channel funding to support every child.

QUESTIONS

As we continue to shape the future of education in America, we need to ask ourselves:

1. How did these high-performing school systems focus multi-professional groups from different agencies to ensure the success of all children in literacy and numeracy?
2. How did these high-performing school systems partner with parents from early learning years through high school?
3. Many high-performing systems provide educational equality free to all children, including books, meals, transportation, and health care plus well organized, aligned, and effective special education. What steps can we take to address these issues?
4. How do the high-performing systems teach the whole child, including play, the arts, and languages, and provide whatever is needed to ensure student success?
5. What do we do to help families support student learning from an early age?
6. How can our systems diagnose toddlers and provide individually tailored support and learning plans for all children to be at similar academic levels as they enter first grade?

LEARNING

Student Success Driver 2: Personalization and Pathways for Student Success

Education is essential for health, well-being, and economic growth. But national averages mask the fact that certain populations are consistently underrepresented for post-secondary achievement and workforce positions. Twenty percent of teenagers between the ages of 15 and 19 are no longer pursuing an education in the United States.

Successful high-performing countries have a system in which their lowest-performing students are ranked not much lower than their best-achieving students. There is not a significant academic achievement gap. This success stems from coherent and accessible pathways for all students. These pathways exist from pre-elementary to post-secondary, from basic education to vocational education, and from job training to the workforce. These are systems in which all schools, from kindergarten through the end of lower secondary school, are open to children of all races, ethnicities, genders, and socioeconomic statuses and are committed to bringing students up to the same high standards, irrespective of their socioeconomic backgrounds.

Academic and vocational connected pathways begin in the early learning years where there is:

1. A **FOCUS** on the well-being of individual children that provides for childcare, health care, and preschool;
2. An accessible transition gateway from elementary to secondary education to post-secondary; and
3. An **ALIGNED** vocational education and connected pathway between the academic and vocational that delivers core competencies and educational programs relevant to students' personal and career interests as well as the needs of the overall economy.

The high-performing school systems we visited had a strong core curriculum based on internationally benchmarked, world-class standards, which are matched to college entrance and work-ready requirements, as well as to curriculum frameworks that specify what topics should be taught each year for each subject. This, in turn, leads to the creation of gateway exams based on standards and curricular exams. These school systems have a well-defined syllabus for high school courses and high-quality examinations based on those syllabi, as well as training for their teachers in how to teach these courses to students from very different backgrounds.

All essential components within and between the pathways are **ALIGNED** with one another and provide **FEEDBACK** to all stakeholders throughout the system. These pathways **ALIGN** closely between the secondary curriculum, the secondary exams, and university requirements and entrance exams. Likewise, there is close **ALIGNMENT** between industry and employer requirements and the secondary curriculum and secondary exam.



LONG BEACH

At each end of the pathway or gateway (not grade-to-grade), there is some form of exam tied to national standards. All exams and instructional materials are tightly aligned to the national curriculum. These systems have ensured coherence and **ALIGNMENT** within instructional systems to assure that students acquire academic and technical skills. With gateway exam systems, every student has a strong incentive to take rigorous courses and work hard in school. When the high schools assure that students are college- and career-ready, colleges and employers agree.



Finland and **Singapore** have multiple pathways that are highly developed and successful at leveraging occupational skills at the secondary level and that have performance-based vocational qualifications and vocational learning-for-work programs with modular content rather than annual curricula. Students earn credentials that they know will be honored by the industry and where colleges and employers have had input and agree on college- and career-readiness.

The high-performing school systems we visited have amazing systems of career and technical education that **FOCUS** on developing strengths rather than exacerbating weaknesses and on providing experimental and collaborative learning. As a result, students make an effective transition from school to work with the academic skills needed to enter the workforce and engage in more learning on the job under the supervision of an experienced mentor. Student pathway experiences use multiple networks of people who have jobs, internships, or apprenticeships.



Long Beach applies a pathways program that is implemented statewide in California. As the second-busiest port in the U.S., and with its proximity to Los Angeles, the Long Beach Port Authority is a significant jobs creator for the area. From truck drivers to aerospace specialists, the port requires skilled workers to drive the business engine for the region. Long Beach's high school pathway programs are closely tied to the needs of business through advisory boards that ensure curricula in the 16 pathways include the elements required for graduates to be ready to enter the workforce. Campuses are organized by the pathways, and students identify themselves with future career options by the time they are sophomores.

In **Singapore**, pathways include an internationally acclaimed Institute of Technical Education (ITE) and technical education where nine of the 10 graduates secure jobs. In the past, this program was meant for lower-achieving students, but is now a high-value system with mathematical skills needed in careers and requires completion of all secondary academic requirements. Their two-year ITE program enables students to successfully progress to polytechnics. Classrooms are as close as possible to real work environments with parallel real world training. In some respects, the community college system in the United States is a combination of the **Singapore** polytechnic and ITE system.



Ontario's goal is to provide more engaging and relevant secondary paths to ensure that 85 percent of students graduate within five years of beginning secondary studies. This starts with personalized pathways to support 7th into 8th and 8th into 9th grade transitions. **Ontario** provides innovation paths in secondary schools that also encourage adults 20–40 years of age to come back and continue education. This education and training path is essential for the country's economy and social well-being of individuals and communities. States and partners support these programs for wide accessibility and better coordination from training, jobs, higher education, citizenship, and immigration.

In the high-performing school systems we studied, the standards are fixed, and the support system varies. This means financial resources are allocated so that students who need more help, get the help. It also means that the students who are farthest behind get the best teachers. Additionally, the students who need help get more time after school, on weekends, and during the summer. Summer learning helps reduce the student performance gaps.

High-performing school systems expect all students to achieve. Few of these high-performing school systems use tracking or ability grouping. They have systems in place to enable teachers to identify any issue and to **ALIGN** the instructional techniques or resources needed to ensure the students get back on track.

Many of the high-performing systems identified schools that were not successful in bringing all their students to high standards. They closed underperforming schools and reassigned the students to high-performing schools. Or, they assigned key staff from better-performing schools to take leadership positions in the low-performing schools. These systems also sent key staff from low-performing schools to the high-performing schools or have had the management within the high-performing schools begin managing the low-performing schools.

High-performing school systems have moved away from local control toward systems designed to distribute resources to provide necessary supports for all children to learn and achieve high standards within the pathway they chose. This does not mean equal funding for all students, but differential funding. Students from low-income families, students from families who do not speak English at home, and those with some form of disability bring more money to the school. Schools have the same high expectations for all students, and they provide additional support to students who need them to master standards.

The systems **FOCUS** on the whole child—and every child.



Highly equitable systems are committed to social values learning and support the investment in publicly-funded schools. **Ontario's** and **Finland's** public schools are the heart of their communities, with 95 percent of students attending their publicly-funded schools. Supplementary schooling between lower and upper secondary school is provided for students in need.



Hong Kong, Finland, and Ontario use a three-tiered intervention model. Summer programs in priority neighborhoods have access to programs and support. Tutoring initiatives and successful online offerings after school help deliver services without substantially adding costs.



Singapore's FOCUS values educating the whole child and considers not only academic, but also emotional dispositions. The system emphasizes competencies, such as being self-directed, actively contributing, and becoming a concerned citizen for future 21st-century jobs and living. **Singapore's** lack of natural resources has led to the deeply held value that “Our people are our only resource.” The school system extensively uses Gallup student, teacher perception, and climate surveys to gauge its global school house vision. **Singapore** wants students who embrace diversity and can travel anywhere and be successful. The school system provides ongoing, cyclical feedback loops between school and community with student-led curiosity teams that engage in research-based project work presented to groups of external business and community members.





The introduction of Liberal Studies is an attempt to equip **Hong Kong** students with 21st-century skills. Senior Secondary Liberal Studies is a response to the community's expressed needs for a cross-curricular learning opportunity for all senior secondary students.

It complements other senior secondary subjects in providing for academic excellence, broadening perspectives, and connecting learning more closely to real-life experience. The subject is rooted in the curriculum contexts of Hong Kong and aims to achieve the learning goals, which have been identified for senior secondary education.

Hong Kong's student-based, personalized learning system keeps track of every student with embedded assessment for learning formative checks as a daily routine while emphasizing personal growth and character development.



All teachers teach to the core curriculum but have the latitude to craft the best lessons supporting the core curriculum to meet the needs of each child. Continuing professional development and curriculum are **ALIGNED** in all high-performing school systems. Faculty work together to develop stellar lessons, demonstrate to one another, and receive **FEEDBACK** on their teaching and practices. They use formative and summative assessments and carefully monitor student learning to provide **FEEDBACK**. Parent groups in **Finland** talk with teacher groups about what quality looks like. Together, they have created "quality cards" that enable the teacher, student, and parent to know what the learning target looks like. Professional development for educators and the process of improving instruction are tightly aligned in high-performing school systems.

Finland's curriculum emphasizes creativity and innovation. The culture, community, and family units emphasize academic success for a healthy life and positive work ethic. These are **ALIGNED** and woven throughout the entire curriculum and teaching practices. Educational policies do not change based on who is in political office.

When you put the child at the center, it brings continuity. When a minister or director changes, there is still continuity.

Teachers select and design their own projects using subject-based knowledge and skill to frame problems, design solutions, identify sources of information, analyze information, synthesize what was learned, frame a solution, and then communicate the solution. Teachers not only design great lessons, but motivate, facilitate, mentor, and partner with students in this learning process. Classrooms are more like workshops that have a solid mastery of core subject background with various content and integrated learning.

Hong Kong and **Finland** have strong traditions in languages, arts, music, and other specials (e.g., sewing, wood working). The emphasis is on applied learning paths (e.g., creative studies, media and communication, business, law, services, applied science, engineering, and production).

The high-performing school systems we visited are highly equitable where factors of race, gender, and socioeconomic status do not prevent students from achieving high outcomes...where **FEEDBACK** is provided to ensure that what is being taught reflects the reality and diversity of students' lives...and where gateway exams test for content mastery and problem solving, and require students to demonstrate creativity and innovation. Additionally, these high-quality exams require all students to master complex thinking skills in mathematics and English Language Arts as well as science, social studies, the arts and music and, in some cases, morals or philosophy. Finally, support is provided early and regularly through preschool into the workforce and the post-secondary system.

Student Success Driver 2: Personalization and Pathways for Student Success

IN SUMMARY		
<div> <div>FOCUS</div> <ul style="list-style-type: none"> ■ Focus on the whole child—and every child. ■ Focus on building a system where factors of race, gender, and socioeconomic status do not prevent students from achieving high outcomes. ■ Offer career and technical education that focuses on developing strengths rather than weaknesses, and experimental and collaborative learning. </div>	<div> <div>ALIGNMENT</div> <ul style="list-style-type: none"> ■ Offer accessible, aligned gateways from elementary to secondary education to post-secondary with high benchmarks for academic and technical skills. ■ Align academic and vocational pathways to deliver core competencies and educational programs relevant to personal and career interests. ■ Ensure close alignment between industry and employer requirements and the secondary curriculum and secondary exam. ■ Tightly align all exams and instructional materials to the national curriculum. </div>	<div> <div>FEEDBACK</div> <ul style="list-style-type: none"> ■ Provide feedback during the ongoing cycle of curriculum review to ensure that what is being taught reflects the reality and diversity of students’ lives. ■ Use formative and summative assessments as feedback to monitor student learning; use PISA as a relative formative assessment that provides benchmarked feedback. ■ Foster communications and feedback between school and external business and community members. </div>
QUESTIONS		
<p>As we continue to shape the future of education in America, we need to ask ourselves:</p> <ol style="list-style-type: none"> 1. How do coherent pathways impact our global economy? 2. How do we provide pathways for all children regardless of their background and socioeconomic status? 3. How do we provide all children with deep math and science content knowledge, as Singapore has included in its pathways? 4. What weekend, evening, and summer supports could help decrease the learning gap? 5. What are the implications for our community, school system, and way of life? 6. Should the U.S. incorporate values and non-academic skills back into the curriculum like the high-performing systems do to build character and morally conscious citizens? 		

TEACHING

Student Success Driver 3: Teacher Selectivity, Quality, and Growth

Teacher quality. Regardless of context or culture, the quality of the teacher who works with young people is important. Quite simply, teachers make a difference. Teachers influence what students learn and how much they learn.

The critical unanswered question for researchers and practitioners is: “**How do we prepare and mentor high-performing and highly effective classroom practitioners?**”

Teacher quality is being addressed by policymakers as well as politicians, and part of the problem with ensuring quality relates to how one interprets the phrase “teacher quality.” Most recently, teacher quality has been connected with a teacher’s ability to foster student academic achievement. In essence, what qualities or characteristics must an individual possess to enhance the likelihood of his/her success in the classroom (i.e., an ability to increase student achievement)?



High-performing school systems have a very clear **FOCUS** on identifying the best and brightest teachers for their classrooms. **Finland** is highly selective, and draws from the top 10 percent of college graduates.



Singapore and **Ontario** are only slightly less selective. For example, **Ontario** draws from the top one-third of college graduates, and **Singapore** receives approximately 16,000 applications for 2,000 teaching positions. In **Hong Kong**, the top 18 percent enter the teaching profession. In every country that outperforms the United States, efforts have been made to recruit and select teachers drawn from the most academically talented students. In essence, those countries make an assumption that high-performing students are a byproduct of teachers with high academic ability.



Teacher selectivity in high-performing countries is often easier because of “flatter” economic social structures. For example, **Finland** compensates teachers at a rate that is comparable to other high-status professions, but because salaries for all professionals are in the same relative range, excellent candidates are attracted to teaching—it offers fair pay coupled with high prestige.

In **Shanghai**, teachers are among the highest-paid civil servants in the country, and in **Singapore**, the Ministry of Education regularly adjusts teacher compensation to ensure that it’s competitive with other professional fields.



Policymakers in high-performing school systems implicitly and explicitly believe only academically talented teachers are able to teach in ways that ensure students learn what they need to know and be able to do to be college- and career-ready. It takes academically talented teachers to challenge the critical thinking and problem-solving abilities of their students. These teachers are successful because they possess the language skills and conceptual understandings of content to make more informed decisions about appropriate instructional methodologies that engage students as problem-solvers and disciplined critical thinkers who have globally shared values and exchange of ideas.

Many educators in the United States worry about alignment between curriculum, instruction, and assessment. But there is another alignment that is even more important: **ALIGNMENT** between the quality of the teacher in the classroom and the expectations for success that educators have for students.



Quite simply, school quality never exceeds the quality of the teachers and leaders in a school.

ALIGNING teacher quality with the expectations for high performance is a key ingredient for success in high-performing school systems. **Finland** requires teachers to have a research-based master's degree before entering the field. **Ontario** believes that successful teaching is, in part, about personalization and precision. How can we prepare teachers to support the personalization and precision needed in teaching and enhance professional growth with their own classroom-based research and investigations?



The high-performing school systems we studied “select” candidates. Further, these systems have developed compensation systems that enable teachers to receive enhanced pay throughout their careers.

What separates high-performing school systems is the way in which they close the **FEEDBACK** loop between the teachers they attract and the way they recognize and reward them.

In the 1960s, James Coleman argued that the family, not the school, was essential to a child's academic achievement. In the 1990s, Dr. William Sanders offered a counterpoint: the teacher was the key to a student's academic achievement. Sanders failed to define exactly what teacher qualities make the value-added difference, but he did clearly document that differences in teacher quality existed. Some teachers are simply better than others at communicating and clarifying content.

In high-performing school systems, policymakers have decided that teacher quality is connected to teacher selectivity. Again, candidates are chosen rather than self-selected. This subtle, but real difference is significant. “Teacher selectivity” results in a measure of professional status that causes those “selected” to view their role and opportunities in a positive light. The consequence is that classrooms are staffed by individuals who know they are respected by parents and community members. And, they understand the exceptional nature of their responsibilities.

With the adoption of the Common Core State Standards in the United States, the teacher selection process becomes even more significant. When teaching **FOCUSES** more on skill development and memorization, teachers can more easily manage content without “engaging” that content. The Common Core changes the pedagogical dynamics of the classroom. Teachers must not only know their content, but must also know how to help students **FOCUS** on the most important ideas of a discipline.



As other high-performing countries illustrate with teacher quality and with enhanced teacher selectivity, teachers can actually “teach” less, but students will learn more. And, students can be in schools less time (e.g., *Singapore’s* school year is 171 days), but will achieve more, especially as teachers in those countries place more emphasis on dynamic classroom instruction. High-quality teachers are more academically efficient and able to clearly and logically communicate ideas in ways that foster student engagement and achievement.



The answer to the teacher quality conundrum is simple: enhance the teacher selection process. Some might question the feasibility of enhanced selectivity, but clearly some high-performing countries and cities are hitting the selectivity mark. **Long Beach** is one such example.

Long Beach teachers are comfortable sharing best practices with their colleagues and asking for help. Teachers are invested in the district (70 percent live within the district), and the district invests in them by providing systematic and in-depth professional development.

Teacher selectivity is about much more than simply choosing the best to enter the profession. Teacher selectivity implies that a school district creates an atmosphere in which partnerships are established, and professional relationships are encouraged. It also creates the conditions for high-quality professional development whereby teachers receive opportunities that are **ALIGNED** to their pedagogical expertise and that grow their professional skills. In this kind of atmosphere, strong teachers personally thrive and professionally grow.

Long Beach uses two other approaches that have policy and practice efficacy. First, the district works collaboratively with a regional higher education partner to “manage” the quality of novice and master teachers employed by the district. The district is closely tied to California State University-Long Beach. Many **Long Beach** employees teach pre-service courses at the college, grooming teachers for “The Long Beach Way” prior to their work in the district. This intentional approach to preparation and selection begins to build a consistent set of approaches and behaviors across the district.

Second, **Long Beach** relies heavily on “in-house” rather than vendor professional development, with highly skilled instructional coaches assessing and informing the classroom instruction of peers. An important element of this approach is a common language for professional learning for principals and teachers. Additionally, the culture of high expectations is followed through at all levels. For example, the district has no “terminal” assistant principal positions. Staff promoted to assistant principalships are expected to learn and grow into the principal position within a set timeframe. If they do not, these staff move to another career path.



In **Hong Kong**, the government continues to increase support to provide ongoing and continuous improvement of teacher quality and growth. Schools also receive strong support from the Education Bureau (EDB). The EDB staff work with teachers to make new initiatives stick, develop critical friendship with schools, and offer additional resources to support instruction and ensure student success.

Student Success Driver 3: Teacher Selectivity, Quality, and Growth

IN SUMMARY

FOCUS

- Identify the best and the brightest to be teachers.
- Select the top college graduates.
- Elevate teaching as a high-status profession.

ALIGNMENT

- Align teacher selectivity with innovative career options and opportunities.
- Align teacher quality with school quality.
- Align teacher quality with high student performance expectations.

FEEDBACK

- Recruit and “choose” teachers to enter the profession more often than self-selection.
- Offer teachers the opportunity to participate in meaningful professional development.
- Establish ongoing interaction between schools and teacher preparation institutions to identify the strongest candidates and to enhance preparation.

QUESTIONS

As we continue to shape the future of education in America, we need to ask ourselves:

1. How can we balance the “support and pressure” we place on teachers in our schools?
2. How can we invest in teacher professional growth to ensure student success?
3. Asking teachers to collect, document, and analyze evidence of student learning requires a high degree of analytical skills. Are colleges preparing teachers to be 21st-century thinkers?
4. How can we create innovative and diverse career opportunities for teachers?
5. What needs to occur for school and teacher preparation institutions to work together more effectively?
6. How could schools provide feedback on the quality of the teachers they employ from higher education?

TEACHING

Student Success Driver 4: Focus on Learning

All the school systems we visited place the learner and learning at the center of the system. The Dean of the National Institute of Education in Singapore told us, “Today’s students are EPIC learners—experiential, participatory, imaginative, and connected.”



Singapore students go to school for 171 days a year and receive only about five hours of actual instruction each day. If we build the desire and capacity for student ownership of learning to mastery levels, then we will have more flexibility to determine how education is designed and delivered.



The **Finnish** educational leaders we met emphasized that learning is the **FOCUS**, not test results. Good test results are a byproduct of helping students own and master their own learning. This is one of the reasons why as part of “*The Long Beach Way*,” students help set their own learning goals and performance targets. As a part of this approach, each student receives a combination of large group, small group, and individualized instruction—including coaching and intervention whenever needed. With a large population of immigrant students from Latin America, each classroom welcomes new students and integrates their learning throughout the year. Instead of being a disruption, new students receive wraparound intervention services immediately, so that they can become accustomed socially and academically while they learn a new language. Another approach **Long Beach** uses is common learning tools across grades. For example, elementary and high school students alike use “thinking maps” to organize their writing.

Formative assessment is an essential part of most of the systems to advance a “teach less, learn more” and ensures that the curriculum is **ALIGNED** to what students need to know and be able to do. These school systems focus on culture and avoid the negative effects and uses of external accountability tests and systems. These school systems recognize that strong and sustained research evidence identifies effective feedback as one of the most critical influences on student achievement.

Formative assessment **FEEDBACK** offers an effect greater than student socioeconomic background, prior cognitive ability, and traditional practices, such as ability grouping, homework, and packaged instructional programs. One **Finnish** official observed, “We value feedback over regulation.”

A principal in **Ontario** said, “We provide support, support, support, then pressure.”



There is a belief in most, if not all, of these high-performing systems that students and teachers want to do a good job. They believe if people are not doing what is expected or making unwise choices, it is more likely because they do not have the knowledge or appropriate support to succeed. Extensive and punitive accountability measures and performance regulations will not remedy the situation, and most likely will make things worse. As one system leader said, “**FEEDBACK** leaves us no choice. It is the ultimate accountability. Good **FEEDBACK** loops enable us to identify and close learning gaps.”

Perhaps the most striking common dynamic across the five systems is a systematic, deliberate, and unrelenting **FOCUS** on **FEEDBACK**. Trusted and appropriate feedback is considered a decisive element to promote high-quality learning and teaching. They define feedback as a learning practice used to identify and close the gap between actual and desired performance.



FINLAND



Ontario provides a clear example of a systemic approach to **FEEDBACK** in how they assess, evaluate, and report “in” (not “on”) **Ontario** schools. In their system-wide curriculum policy document, Growing Success, they require teachers use practices and procedures that:

- Provide ongoing descriptive **FEEDBACK** that is clear, specific, meaningful, and timely to support improved learning and achievement; and
- Develop students’ self-assessment skills to enable them to assess their own learning, set specific goals, and plan next steps for their learning.

We live in a digital age in which most learners are wired for and by immediate and motivational feedback. By grounding the work of learning and teaching around feedback, high-performing school systems are able to demand and support collective responsibility, collegial exchange, visible learning, and student engagement. Similar to the “earned points” systems embed in most video games, success and error become feedback loops to adjust ongoing learning and teaching to improve achievement of intended learning targets at the individual, classroom, school, and system levels.

All five school systems we studied **FOCUS** considerable time, attention, and resources to incentivize the implementation and improvement of effective **FEEDBACK** and build the formative assessment capability of pre- and in-service teachers.

The implementation of Common Core State Standards and next generation assessments in the United States offers an unprecedented opportunity to initiate major changes in teaching and learning feedback practices and systems. In fact, they demand deep and broad capability building in effective **FEEDBACK** by and with learners, educators, and educational systems.

All five high-performing systems recognize that the future of learning must increase human capacity to successfully address major global opportunities and challenges of the 21st century. They see a compelling need to broaden conventional notions of student success to include the creative and entrepreneurial talents necessary for personal, national, and global prosperity. This is possible because 1) technology enables students to learn 24/7 and authentically demonstrate what they know, while well-trained and well-supported teachers work with students to define, measure, and facilitate learning success; and 2) communities, parents, and students are demanding educational experiences that develop self-regulated learning, critical thinking, collaboration, creativity, multicultural understanding, and communications skills.

Student Success Driver 4:

Focus on Learning

IN SUMMARY

FOCUS

- Teach less, learn more.
- Drive for mastery.
- Assess *for* cognitive and non-cognitive learner outcomes.

ALIGNMENT

- Embed formative instructional practices.
- Establish common rigor, and multiple student pathways.
- Grow professional expertise and provide autonomy.

FEEDBACK

- Reduce noise and increase signal at the classroom, school, and system levels.
- Increase effectiveness and efficiency.
- Promote strong individual and collective efficacy and trust.

QUESTIONS

As we continue to shape the future of education in America, there is a compelling need to place the learner and learning at the center of the conversation. We need to ask ourselves:

1. What is the future of learning and student success?
2. What are the barriers to effective assessment across systems, and how do we overcome them?
3. What kind of feedback matters at the classroom, school, and system levels?
4. How do we properly manage feedback fidelity, quality, and accessibility?
5. How can we ensure we act on feedback appropriately?
6. How do we nurture and provide feedback for cognitive and non-cognitive learner outcomes?

CONDITIONS OF SUCCESS

Student Success Driver 5: Education Linked to Economic Development

Educational attainment and economic development are closely **ALIGNED**. Every community needs a certain amount of intellectual capital to thrive. That belief has always been evident, but is especially so in a 21st-century, globalized economy.

Historically, the United States has been the global leader in terms of intellectual capital. That is no longer true. Each year, the United States drops in relative terms in comparison to the number of college graduates it produces, from 1st in the 1990s to 14th in 2012. Quite simply, the U.S. is an under-producer of intellectual capital, and countries such as China and India are quickly emerging as overproducers. That fact will influence everything from GDP to patents to innovation and entrepreneurship...to quality of life!

Results from the PISA test suggest that the performance of students in the United States is, at best, mediocre. The consequence of underperformance means fewer students have access to the intellectual capital and the possibility of middle class incomes in the 21st century. A smaller middle class signifies real problems for our national economy.



Education has always been the ticket to the middle class way of life and to sustaining our democracy. In countries such as **Finland** and **Singapore**, there is a clear understanding that economic vitality is closely associated with educational attainment. A similar imperative is not part of the culture of communities in the United States.

For whatever reason, far too many students are failing to graduate from high school college- and career-ready. The jobs of the future are going to require some sort of post-secondary credential, and achieving that credential means **ALIGNMENT** from the point of entry into the education system to the point of being college- and career-ready.

Experts assert that two out of three 21st-century jobs are going to require a two- or four-year college degree. At the current time, about one out of three 25 to 64-year-olds in the United States possesses such a credential, which is far below the ratio needed for economic vitality.

The link between the economy and education in high-performing school systems is tight. In essence, there is a **FEEDBACK** loop between what the education system provides and what the marketplace demands. For example, in **Singapore**, the Ministry of Manpower meets regularly with the Ministry of Education to provide a feedback loop between the needs and demands of the economy and the manpower produced by the education system to meet those needs.

In the United States, a premium is placed on an individual's personal choices and sense of autonomy. Market demands often shape career choices, but individuals are often encouraged to pursue occupational choices consistent with their interests, which may or may not be aligned to marketplace needs.

In educationally high-performing countries, there is a greater **FOCUS** on the collective needs and the workforce development necessary to meet those needs. Those cultures appear to understand the essential nature of global competitiveness. These countries have benchmarked their systems to ensure that students are completing their education with the skills necessary to make them competitive in the international marketplace and to ensure that they have the talent necessary to fulfill workforce needs. The tight **ALIGNMENT** between the education system and the country's economic needs leads to a very efficient system.

The Lumina Foundation estimates that by 2025, 60 percent of the United States population should hold some type of post-secondary credential for the country to be economically competitive. That goal is essential if the United States is to be in a position to create not just jobs, but good jobs. Good jobs demand intellectual capital and the pursuit of good jobs is one reason that the Common Core State Standards and other curriculum reform efforts have been initiated across the 50 states.

With intellectual capital and an enhanced **FOCUS** on productivity, high-performing school systems are able to address equity issues and ensure students receive the opportunities they need for personal success. These same systems understand that efficiency and effectively managing resources enables them to secure cost savings that can be reallocated to serve the needs of all students—particularly those who struggle to succeed.



In **Finland**, high percentages of students receive special education during the early grades. The system invests heavily at the early grades to ensure all students' readiness to pursue a more rigorous academic curriculum as they mature. The United States allocates its special education services in a much more restrictive way, and the result is that many students who need or who would benefit from additional assistance simply do not receive it. Students in **Finland** are ready to read by the time they enter third grade because they have received the education they need through "just-in-time" service delivery. Students in the United States are much less likely to possess the reading skills necessary for proficiency because learning needs have been unaddressed. As a result, far too many U.S. students are not able to complete their studies, graduate from high school, and pursue post-secondary credentials. The impact of this circumstance is real for the students in terms of lifetime earnings and to communities in terms of lost intellectual capital.



The 21st-century world is an international marketplace. Corporate leaders can tap the intellectual skills of people from around the world. The countries that provide that intellectual capital, the countries that thrive and survive the economic challenges of the future, are going to be the countries that ensure that their P-12 systems are preparing students for educational opportunities beyond a high school diploma. In **Hong Kong**, schools are very engaged internationally. Most schools partner with schools in other countries, and regular exchange programs in both student and teacher levels are ongoing. Teacher-level exchanges also include sharing good practices and professional development. The United States is still far too focused on high school graduation as the educational endpoint. The world of the future will be **FOCUSED** on post-secondary, college, and career. High-performing countries clearly understand the nexus between education, the economy, and the global community.

The Gallup Global Wellbeing Surveys show that the single most desired feature of a good life is the attainment of a good job. Of the seven billion people on the planet, three billion people tell Gallup they seek good work. Most desire full-time, sustainable employment. Currently, there are only 1.2 billion such jobs around the world, leaving a global shortfall of 1.8 billion good jobs. Gallup calls this situation "The Coming Jobs War" (Clifton, 2011).

How can communities, from small rural settings to large metropolitan areas, manage to grow good jobs?

The high-performing school systems we visited are **FOCUSED** on this question. Whether it is designing and delivering a post Nokia phone future in **Finland** to making Toronto the world's largest city of globally educated and competent professionals, the coming jobs war will demand new "collaboration curves" between educational, business, and civic systems. By collaboration curves, we mean ways to increase local performance and prosperity through new platforms of engagement centered on growing skills, talent, and entrepreneurial capacity.

High-performing school systems must be well-connected not just to local stakeholders and assets, but also to global networks that help them achieve exponential performance improvement in educational quality and advance positive and shared relationships between learning and livelihood.

Student Success Driver 5: Education Linked to Economic Development

IN SUMMARY

FOCUS

- Provide a rigorous curriculum.
- Focus on academic competitiveness.
- Link educational attainment and economic development.

ALIGNMENT

- Understand that jobs in the future will require post-secondary credentials.
- Align the curriculum to ensure college- and career- readiness.
- Closely align post-secondary achievement and productivity.

FEEDBACK

- Adjust educational programming to respond to market demands.
- Align market demands to personal career choices.
- Ensure that workforce development influences economic vitality.

QUESTIONS

As we continue to shape the future of education in America, we need to ask ourselves:

1. Is a national curriculum necessary for educational excellence in the United States?
2. How do we educate the whole child to ensure economic prosperity for all?
3. Why are economic productivity and intellectual capital so closely aligned?
4. How should educators work to align the curriculum that they provide to students with community expectations?
5. What is the appropriate role of business in schools?
6. Why should young people consider market demands when making learning choices?

CONDITIONS OF SUCCESS

Student Success Driver 6: Cultural Expectation of Value

These 10 statements express the cultural expectation of value that drives the five high-performing school systems we visited.

1	2	3	4	5
Seek broad and sustainable prosperity.	Everybody needs to succeed if we are all to succeed.	Education is a common good.	FOCUS on the whole learner and engage families.	Stay FOCUSED .
6	7	8	9	10
Reduce distractions.	Keep it student-centric, simple, sincere, and sustainable.	Be fair and honest.	Stay the course and ensure ALIGNMENT .	Constantly grow educator capacity and professional status.



The “keep it simple” ethic tends to rest on the notion of a clear **FOCUS**, an **ALIGNED** effort, and trusted **FEEDBACK** systems. As one principal outside Toronto shared, “The everything agenda is an energy vampire that sucks all of our energy and leaves us tired and frustrated because we can never fully accomplish what we hope to do.”

For nearly the last decade, *Ontario* has stayed steady on three goals:

1. Seventy-five percent literacy and numeracy rates;
2. Eighty-five percent high school graduation rate for all student populations; and
3. Increased public confidence in the educational system.



Long Beach has been able to stay **FOCUSED** and stay the course partly because of the relative continuity of leadership across the district and partly because more than 70 percent of their employees live in the district.

Additionally, despite a high amount of mobility, including new English Language Learners across many classrooms, every student is expected to perform.

From an early age, students select their desired college, major, and career. In all classrooms, the students' self-expressed, personal high expectations are posted on the walls, as a reminder that everyone can and will go far in life. To support that performance, state standards are also posted, along with the path for meeting and exceeding them.



Finland and **Ontario**, like most of the systems we studied, do not change educational reform efforts every few years based upon political and/or policy whims. Instead, these systems follow an established and accepted game plan that places the individual and collective expertise of teachers at the core of the work. When they do make changes, they involve teachers because they know that their teachers are the experts and to ensure **ALIGNMENT** of the desired goals for student learning. Nobody in the United States thinks of substantively changing professional medical practice without consulting doctors, nurses, and other health providers.



In high-performing school systems, teaching is a revered profession held in high regard with clear performance expectations, standards, and support.

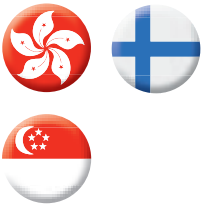
In some ways, everything comes down to **FEEDBACK** systems grounded in strong relationships and mutual trust. We recognize that we explored relatively small fairly homogenous educational systems, and this can make common cultural expectations and value a bit easier to recognize and realize. But regardless of size, feedback systems that promote fairness and honesty set the various social contracts that ensure the value and efficacy of public education particularly as diversity grows. Every learner and educator are offered a fair chance to succeed regardless of background or residence.



Simple, sincere, and honest feedback promotes student ownership of learning and teacher ownership of powerful professional practice and integrity. In **Hong Kong**, educational officials once published comparative performance data of teachers and schools in the newspapers and quickly stopped this practice once they saw the negative repercussions on public trust and confidence. There are different and more productive ways to be transparent and trustworthy. Community and/or national prosperity and competitiveness require a great deal of collaboration and feedback within and across educational, business, and civic enterprises.



Being a small country with limited natural resources located in a populous and competitive part of the world, **Singapore** has made education its "signature brand." The **Singapore** Ministry of Education spends considerable resources every year marketing the importance and value of being a teacher and encouraging the best and the brightest to seek a teaching career. The **Singapore** government recognizes that the nation's future health and prosperity rest on the talents of all of its people. They view the path to student success as not "a race to a single mountain peak, but as a multiple ascent across a mountain range." The ties between the **Singaporean** economy and educational system are very, very tight. The Ministries of Manpower and Education work together under the same "signature brand" to ensure that the blend of learning and livelihood lead to personal and collective prosperity.



Nearly a fifth of **Hong Kong's** governmental budget is targeted for education. Unlike the American context in which there is a steady and often contentious **FOCUS** on generating, using, and managing dwindling fiscal resources, educational leaders in **Finland, Singapore,** and **Hong Kong** seem to be able to devote more time and attention on cultural and not financial expressions of value.

In **Hong Kong**, cultural expectations are critical to school success. The schools establish a common language, mission, and objectives together for the common good. Nearly all of the students we met had a global view of education and of their futures. Most students are bi-lingual, and many are tri-literate at a very young age. Students spoke of traveling to other countries for their learning in addition to their studies in **Hong Kong**. Many leaders shared that fundamental to their success has been their combination of the culture of the East and the problem-solving, creative, and worldly view of the West.

The East focuses on moral development, effort, and a hard-working ethic. Also, it is a cultural belief among the Chinese that the way to move up the social and economic ladder is through education. Therefore, **Hong Kong** students tend to stay in education for longer than students in other countries. Also, most **Hong Kong** parents will ask their children to stay in education for as long as possible. Parental involvement and financial support are critically important to student success.



Ontario and **Long Beach** face a more turbulent financial climate. But, they as well have kept mission over money as the driving force behind most of their decisions. Like **Finland**, they do not treat "No Child Left Behind" as a hollow political slogan or a regulatory scheme that fails to build the fundamental capacity to succeed.

Instead, **Ontario** and **Long Beach** have worked hard over the last decade to build a common language and professional learning system to equip and support all system personnel to deliver on the "No Child Left Behind" promise. Most of our Global Education Study team, if not all of the participants, knew prior to our trips that there were no silver bullets, and that we needed to be careful applying cultural expectations and values from distant cultures to the American circumstance.

What perhaps we did not realize before our planes lifted off for distant lands is that our journey would result in a universal sense of "going home"—rediscovering what our **Long Beach** colleagues emphasize all the time—to be successful we need to "act as a family."

- **We learn from the company we keep.** Families and school systems, like all living systems, survive and thrive on feedback and natural exchanges of energy and resources.
- **Teaching is nurturing the whole individual.** Strong and stable families help everybody grow in their own way...at their own pace within a culture of clear and high expectations. In the classroom, powerful pedagogical practice provides a **FOCUS** through clear learning targets, gathers evidence to ensure **ALIGNMENT** of teaching and mastering the targets, and provides effective **FEEDBACK** to promote student ownership of learning. This is done over and over again. Learner development is not a linear progression of mastering new knowledge. It is a cyclical dynamic involving experience, expertise, application, and reflection. Good teaching is centered more on how students learn.
- **Individual and collective efficacy is essential.** If people do not feel they have the power and autonomy to succeed, then they will not persevere and grow.

The next generation of educational innovation will increase access to the tools, resources, and expertise that each student will need to succeed regardless of time, space, and cultural limitations. More and more borders will be breached, and student ownership and mastery of learning will drive the ways we design and deliver education.

Student Success Driver 6: Cultural Expectation of Value

IN SUMMARY

FOCUS

- Communicate a common mission, objectives, and messaging.
- Reduce political and policy distractions.
- Stay the course in a fair and honest fashion.

ALIGNMENT

- Make a clear and consistent investment in what works.
- Strive for continuity of leadership.
- Adopt education as a signature brand.

FEEDBACK

- Track and build stakeholder and community trust and confidence.
- Connect education to job creation and economic development.
- Get results through good feedback.

QUESTIONS

As we continue to shape the future of education in America, we need to ask ourselves:

1. What partnerships and collaborations are necessary to increase and spread educational value?
2. How can we improve the public's perceived value of teaching and education?
3. How do we think and act innovatively while staying true to our fundamental values?
4. What is the relationship between transformational and sustainable educational reform?
5. How do we identify, connect, and reinforce local educational capacity?
6. What are the key strategic investments that need to be made to build creative and entrepreneurial talent?

LEARNING AND COLLABORATING ACROSS THE GLOBE

The Global Education Study that Battelle for Kids initiated in the spring 2012 was just the beginning of our commitment to collaborate with educators and stakeholders from around the world to discover the drivers that truly make a difference in student learning.

On November 5, 2012, more than 300 educators, business, and community leaders gathered to attend a Global Education Summit in Columbus, Ohio. Education leaders from each of the high-performing countries profiled in this monograph gave presentations about their journey to student success. Participants used this monograph to inform table talk and discussed the essential questions and strategies for action within the “In Summary” pages for each success driver as well as some of the following:



1. **Early Learning:** What is needed to provide early preventative, individually tailored support for all children?
2. **Personalization and Pathways of Student Success:** How can we prepare students to be self-directed and engaged in educational relationships that advance them to mastery at an appropriate pace?
3. **Teacher Selectivity, Quality, and Growth:** How can we attract, prepare, and retain teachers with the right professional pathways, systems, and support to succeed pedagogically?
4. **Focus on Learning:** How can we ensure that teachers are prepared to and engaged in practices grounded in descriptive feedback?
5. **Education Linked to Economic Development:** Are we producing graduates who have the right knowledge and skills to succeed economically?
6. **Cultural Expectation of Value:** Are students, parents, employers, and citizens confident in the capacity of the system to deliver value?

Access presentations, videos, and resources shared or developed as part of the Global Education Study and Summit at www.BattelleforKids.org/go/global.

Keep the Conversation Going

What are some actions we could take to collaborate and put powerful strategies into practice to accelerate success for all students around the world?

Email your questions, ideas, and **FEEDBACK** to global@BattelleforKids.org and keep the conversation going. Share your ideas on **Twitter@BattelleforKids** (#bfkglobaled) or on **Facebook** at www.facebook.com/BattelleforKidsorg.

APPENDIX

STUDENT SUCCESS DRIVER DEFINITIONS

Following are high-level definitions of the drivers of student success described in this monograph and that the Global Education Study team observed during its trips. Additional strategies related to each driver are highlighted as well.

LEARNING

Student Success Driver 1: Early learning.

- **Early learning (Pre–K).** Early childhood learning refers to the experiences a child has during the period between one and five years of age, including the toddler and preschool years (The American Academy of Pediatrics).
- **Early and ongoing intervention so that no children are left behind.** Remediation that occurs at a timely point in the student's learning process. The student receives **FEEDBACK** that helps him/her learn content at a point before he/she experiences failure in the classroom.

Student Success Driver 2: Personalization and pathways for student success.

- **Multiple, connected pathways to student success.** Academic and vocational pathways are designed and delivered so that all students secure both core competencies and engage in educational programs that are relevant to their personal and career interests. Clear and accessible gateways exist from elementary to secondary education to post-secondary and vocational education.
- **Importance of equity and access for students.** Finance and accountability systems provide a fair allocation of resources for all students with transparent communication on who gets how much, for what, and with what results.

TEACHING

Student Success Driver 3: Teacher selectivity, quality, and growth.

- **Teacher selectivity.** Hire great teachers. High-performing countries place a premium on selecting the very best individuals for appointment to classroom assignments. Only the highest-quality candidates are considered for selection as teachers for classroom assignments with elementary and secondary students.
- **Teacher/school autonomy.** System encourages and supports professional and organizational flexibility and expertise to ensure all students succeed.
- **Professional development.** Teachers receive additional pedagogical training after they have completed their initial preparation for classroom assignments. Professional development occurs when the teacher has responsibility for a classroom, understands the next steps on the career ladder, and receives training for continued career progress.
- **Maintain focus and minimize distraction.** The ability for teachers to make pedagogical decisions about what is essential for student learning and focus primarily on that content during the instructional process.

Student Success Driver 4: Focus on learning.

- **Emphasis on learning, not (or less on) accountability.** System improvement focuses on building capacity and does not overly rely on using test results and performance evaluation to reward or punish educators and schools.
- **Quality and rigor of the core curriculum.**
- **Clear vision of the learner and what learning is (student centric).** The teacher's ability to possess a clear understanding of what each learner needs for academic success and the understanding of how best to shape classroom experiences to foster student growth.
- **Ongoing assessment for learning.** Across the curriculum, learning targets are understood by teachers and students in a context where students assess their own learning and teachers use assessment evidence to adapt instruction.
- **Evidence of student learning.** Assessments that teachers to clearly document what students have learned and the degree to which they have learned it.

CONDITIONS FOR SUCCESS

Student Success Driver 5: Education linked to economic development.

- **Purpose of education: Workforce development; educational skills for essential literacy.** An explicit philosophy that establishes the public and private value of the educational system.
- **Understanding the value and necessity of global competitiveness.** The international benchmarking helps the system focus on critical performance variables and justifies the push for continuous improvement.
- **Focus on productivity allows systems to address equity and students get what they need.** Efficient and effective management of resources enables system to secure cost savings that can be reallocated to serve the needs of all students, particularly those who struggle to succeed.
- **System provides incentives and support mechanisms to ensure that all students have access to effective educators and educational practices.** Students with special needs get strong teachers.

Student Success Driver 6: Cultural expectation of value.

- **Education is for the common good.** Fundamental belief that everybody benefits from an educational system that places the learner at the center of the system.
- **Quality of the national curriculum.** A clear and consistent set of commonly communicated and accepted standards across all grade levels that set academic expectations about what learners should know and be able to do.
- **Quality of instruction.** An emphasis on purposeful and engaging lessons that enable students to assimilate content and process information consistent with high academic expectations.
- **Focus on policy and practice continuity.** Explicit theory of change and the discipline to live it at all levels of the organization (not letting political changes change this focus). Policy and practice are aligned so that all levels of the educational system operate with the same understanding about how best to structure school and classroom environments to enhance student learning.

REFERENCES

- Barber, M., Chijioke, C., Mourshed, M., McKinsey & Company. (2010). *How the world's most improved school systems keep getting better*. Retrieved from: http://www.mckinsey.com/client_service/social_sector/latest_thinking/worlds_most_improved_schools.
- Barber, M., & Mourshed, M., McKinsey & Company. (2007). *How the world's best-performing school systems come out on top*. Retrieved from: <http://mckinseyonsociety.com/how-the-worlds-best-performing-schools-come-out-on-top/>.
- Barnett, Steven, Director, National Institute for Early Education Research, Rutgers University, New Jersey.
- Clifton, J. (2011). *The coming jobs war*. New York, NY: Gallup Press.
- Coleman, J.S., Campbell, E.Q., Hobson, C.J., McPartland, J., Mood, A.M., Weinfeld, F.D., York, R.P. (1966). *Equality of educational opportunity*. Washington, D.C.: U.S. Government Printing Office.
- Curriculum Development Council and the Hong Kong Examinations and Assessment Authority. (2007). *Liberal studies curriculum and assessment guide*. Retrieved from: http://www.edb.gov.hk/FileManager/EN/Content_5999/ls_final_e_070508.pdf.
- Duncan, Arne. (2009). *The early learning challenge: Raising the bar*. National Association for the Education of Young Children Annual Conference & Expo. Washington, D.C.
- Lumina Foundation, www.luminafoundation.org.
- Hong Kong Information Services Department. (2011). *Enhancement of pre-primary education voucher scheme*. Retrieved from: <http://www.info.gov.hk/gia/general/201106/02/P201106020138.htm>.
- Organization for Economic Cooperation & Development. (2010).
- Preschool California. (n.d.). *Closing the achievement gap for dual language learners: How early learning programs can support english language development*. Retrieved from: <http://www.preschoolcalifornia.org/resources/resource-files/dll-policy-brief.pdf>.
- Sanders, W.L. & Rivers, J.C. (1996). *Cumulative and residual effects of teachers on future student achievement*. Knoxville, TN. University of Tennessee Value-Added Research and Assessment Center.
- Stegelin, D. (2004). Early childhood education. In F. P. Schargel & J. Smink (Eds.), *Helping Students Graduate: A Strategic Approach to Dropout Prevention* (pp. 115-123). Larchmont, NY: Eye on Education.
- Tucker, M. National Center on Education and the Economy. (2011). *Standing on the shoulders of giants: An American agenda for education reform*. Retrieved from: <http://www.ncee.org/wp-content/uploads/2011/05/Standing-on-the-Shoulders-of-Giants-An-American-Agenda-for-Education-Reform.pdf>.



About Battelle for Kids

Battelle for Kids is a national, not-for-profit organization that provides counsel and solutions to advance the development of human capital, the use of strategic measures, effective practices for improving educator effectiveness, and communication with all stakeholders. At the heart of this work is an unwavering focus on accelerating student growth.

www.BattelleforKids.org

© 2012, Battelle for Kids, All Rights Reserved.