



School Turnaround in Shanghai

The Empowered-Management Program Approach
to Improving School Performance

Ben Jensen and Joanna Farmer May 2013

Center for American Progress



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Introduction and summary

Public-school students in the world's largest city, Shanghai, China, are academically outperforming their counterparts across the globe and becoming the talk and envy of education experts worldwide.¹ Using an innovative partnering approach that matches successful schools with low-performing schools, Shanghai has valuable lessons to teach on turning around public-school systems—lessons that transcend several of the unique characteristics of the Chinese educational system, as well as the country's rich pedagogical traditions.

In development for more than a decade, Shanghai's empowered-management program aims to improve student achievement in all of its schools by contracting high-performing schools to turn around the academic outcomes of low-performing schools.² Chinese officials regard the program as highly successful and have extended its reach across school districts and to other parts of China.

For a number of years now, the Shanghai approach to schooling has garnered worldwide attention due to its students' impressive performance on international assessments. Results from one of the most respected of these assessments, the Program for International Student Assessment, or PISA, ranked Shanghai as the world's highest-performing education system in 2009. The student assessment, which is conducted every three years, evaluates the math, reading, and science skills of 15-year-old students from more than 70 countries. According to the most recent results available, from the 2009 administration, the average 15-year-old student in Shanghai performs at a math level that is 33 months ahead of the average 15-year-old student in the United States. The performance gap in science is 23 months, and the performance gap in reading literacy is 17 months.³

Admittedly, some have questioned Shanghai's performance on the evaluation, claiming that the results are false, misleading, or the results of selective sampling of students to take the PISA tests. There is, however, no evidence to support such claims.⁴

Just as impressive is the fact that Shanghai's high academic performance is matched by greater equity. This means that there is little difference in student

performance across economic strata. While a student from a poor family or community in the United States is more likely to fall behind academically than his or her peers, the same isn't true of poor students in Shanghai.⁵ In fact, the poorest 10 percent of students in Shanghai perform at a level in math that is on average 28 months ahead of the poorest 10 percent of students in the United States.⁶ What's more, the achievement gap between the lowest- and highest-performing students in Shanghai is smaller than the achievement gap in the United States.⁷

The differences between the performances of students in Shanghai schools and students in U.S. public schools are stark. What, then, can be learned from successful practices in Shanghai? The answers are many and complex. Certainly, not all Shanghai practices could or should be replicated in other countries, and context clearly matters.

In this paper we discuss and closely examine Shanghai's empowered-management program, an important education initiative that has markedly improved low-performing schools in Shanghai. We discuss the program and its implementation in detail in order to help our readers better understand it and to determine those aspects of it that would best suit school systems in the United States. Importantly, this paper argues that cultural differences would not prevent the bulk of this program from being successfully reproduced in the United States, although we fully acknowledge that the program cannot be replicated without some attention to differences across systems.

School-improvement debates in the United States are complex and contested, not least because "school turnaround" has two distinct meanings. As part of President Barack Obama's efforts to implement school reform, "turnaround" is one of four approaches that school districts can take to improve an underperforming school participating in the School Improvement Grant program.⁸ More broadly, school turnaround refers to the process of improving a poorly performing school.

The steps taken in Shanghai to successfully turn around schools will be clearly recognizable to anyone familiar with the school-turnaround process in the United States and other countries. The principles of school improvement remain consistent across the globe.⁹

In Shanghai there are five main factors that are critical to turning around low-performing schools:

- School leadership and strategic planning that raise expectations of students and teachers

- School culture that supports and promotes student learning
- Effective teaching that emphasizes professional collaboration
- Measurement and development of student-learning and effective-learning behaviors
- Strong community relationships that promote student learning

The empowered-management program contracts high-performing schools to work with low-performing schools—usually for a two-year period—in order to turn around their performance. Teachers and school leaders from both schools move between the two schools building capacity and developing effective practices to turn around the low-performing school.

School-district officials in Shanghai match the low- and high-performing schools. Once two schools are matched, the high-performing school is contracted to turn around the performance of the low-performing school. Extensive monitoring and evaluation ensures that the high-performing school is only paid under the terms of the contract if they are deemed to have been successful in turning around the performance of the lesser-performing school. The contract can be terminated and payments can be withheld if they are not successful.

A lack of detailed school- and student-performance data can make it difficult for outside observers to quantify the success of the program. As a consequence, this paper does not attempt to quantify the effectiveness of the program, as data needed to do so were not available and because there is not yet conclusive quantitative evidence of the impact of the program on student progress. There are no studies, for example, that measure the impact of the program using school-level, value-added data, which measures the contribution that schools make to student progress. (For an explanation of how additional information was gathered for this report, please see the Methodology.)

This report is therefore more descriptive, highlighting the apparent strengths of the program that align with international evidence on effective schooling. In Shanghai the evaluation of the program itself is more qualitative, analyzing in schools the behaviors that international research has shown to be important to effective learning and teaching and the assessment of parents' reactions. Further empirical research is required to assess the effectiveness of the program, but it is clear that key decision makers at every level of Shanghai school education consider the empowered-management program to be key to improving performance and equity.

Contextual differences in school education between the United States and Shanghai

A number of contextual differences should be considered in discussing how an education program in Shanghai can inform programs in Western countries such as the United States. Cultural differences clearly play a role in school education, but they are too often overemphasized in explaining differences in performance or as a reason why meaningful reform cannot occur.¹⁰ The evidence rarely supports such arguments.

We should always consider how cultural differences affect policies and programs and how they should be adapted to suit local contexts, but it is easy to exaggerate differences that do not directly relate to the key issues. Still, a number of contextual differences do need to be considered. There are important differences, for example, in the way that schools are financed in Shanghai versus in the United States. Most schools in the United States are funded by state and local revenue. Only about 10 percent of education in the United States is federally funded.¹¹

At the school-district level, much of the funding in the United States comes from local property taxes. Schools in areas with higher property values have larger budgets, which generally means that schools with an enrollment of students with higher socioeconomic statuses also have more and better resources.¹² A recent analysis of U.S. Census Bureau data found that funding ranges from a low of slightly more than \$8,000 per student in Barbourville, Kentucky, to a high of almost \$27,000 in Scarsdale, New York.¹³ This school-funding variance puts the United States in the minority of countries studied in the Program for International Student Assessment—one of only three, in fact—where schools in richer areas have greater resources than schools in poorer areas.¹⁴

In contrast, funding for the public-education system in China has traditionally been highly centralized. In recent years, however, Beijing has granted greater autonomy to provinces. And while Shanghai is a municipality, it has been granted specific status as an innovative school-education area, meaning that it has been granted even more autonomy than other provinces in China. This has allowed Shanghai to pursue specific policies such as increased autonomy to local school districts and the empowered-management program.¹⁵

Shanghai has benefited from this increased autonomy. This is illustrated by the fact that more innovation and subnational decision

making has been encouraged in Shanghai than in most of China's other provinces. This has helped Shanghai become a pioneer in education reform, which has improved key aspects of its schools and instructional practices in ways that improve outcomes in the areas of curriculum, teaching, and leadership.¹⁶

Other changes in Shanghai are also important in understanding the empowered-management program. "Key schools"—elite schools exclusively for high-performing students that once received a disproportionate share of resources—are being abolished.¹⁷ Additionally, schools in Shanghai have the autonomy to work in clusters or form partnerships, which enable them to share resources.¹⁸ Schools with a greater proportion of disadvantaged students, such as those with a high concentration of migrant students or students with lower socioeconomic profiles, need more resources in order to provide an equitable standard of education.¹⁹

It is also important to understand some fundamental elements of public-school education in Shanghai. Compared to most other school systems around the world, Shanghai makes large investments in the following four aspects of teachers' work that are considered fundamental for effective schooling:

- Professional collaboration
- Professional learning
- Induction and mentoring
- Research and lesson groups²⁰

These four areas are key to understanding the empowered-management program, as they are often central to turning around low-performing schools. These areas have had an increased impact on classroom learning and teaching due to effective implementation programs that focus on continually improving learning and teaching in classrooms. Effective implementation of each of these aspects has been shown to be critical to improving schools in numerous education systems around the world.²¹

Why focus on Shanghai?

Shanghai demonstrates high performance and high equity

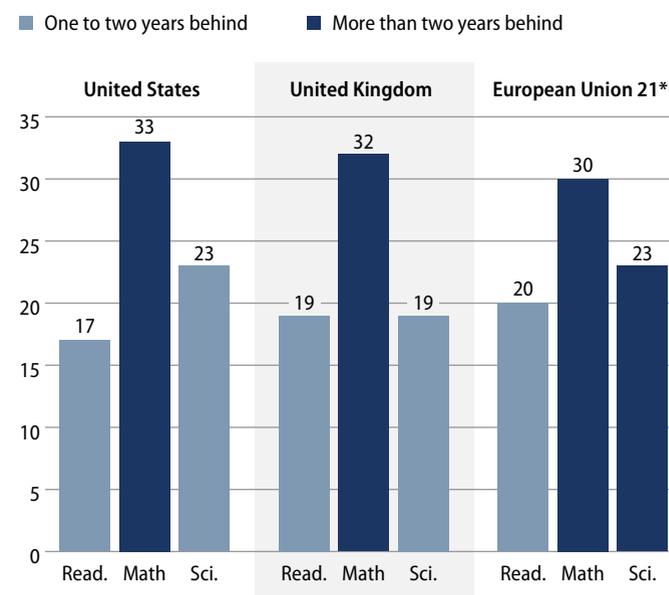
On average, public-school students in Shanghai perform at a level considerably ahead of public-school students in the United States, according to the Organisation for Economic Co-operation and Development's PISA program. Yet Shanghai's high performance does not come at the expense of equity, which is not achieved by levelling down high-achieving students but instead by enlisting the best-performing schools to deliver high-quality instruction across the entire education system.²²

Shanghai's education system is based on the premise that all students must perform well regardless of their socioeconomic background.²³ Effective programs built on this premise mean that there is lower performance inequality between students in Shanghai than between students in the United States and that academic performance is less driven by students' socioeconomic status. (see Figure 1)

The gap between the lowest- and highest-performing students is significantly smaller in Shanghai than it is in the United States and across member countries of the Organisation for Economic Co-operation and Development, or OECD, which is comprised of 34 industrialized nations.²⁴ The gap between the lowest- and highest-performing students in Shanghai is 204 PISA points compared to a 253 PISA point difference between the highest- and lowest-

FIGURE 1
Academic-performance gap measured in months

Differences between PISA performance in Shanghai, the United States, the United Kingdom, and the European Union, 2009

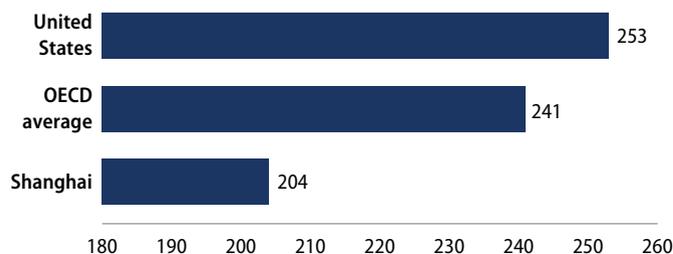


Note: *Unweighted average. Figures represent the differences in 2009 PISA performances expressed in the number of months of school education. On average, one international school year corresponds to 39 points in reading, 41 points in math, and 38 points in science across OECD countries on the PISA scale. Other countries such as EU 21—21 countries in the European Union—have been included to illustrate Shanghai's success.

Source: OECD, "PISA 2009 Results: What Students Know and Can Do" (2010).

FIGURE 2
Comparing low- and high-performing students across the globe

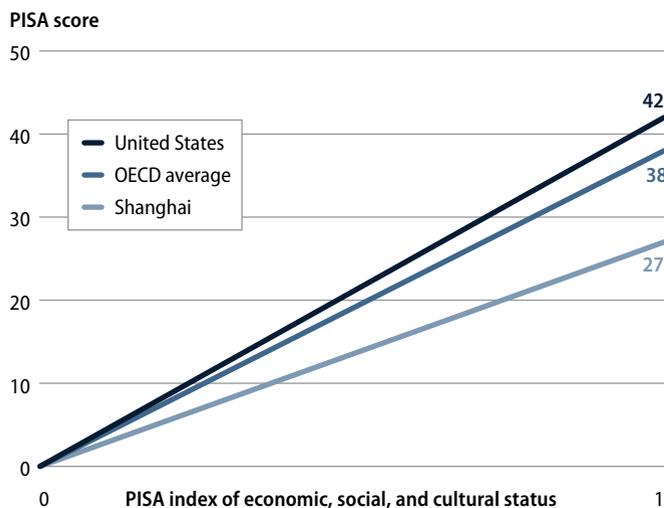
Differences between the bottom 10 percent and the top 10 percent in PISA scores in 2009 in the United States, industrialized countries in the OECD, and Shanghai



Source: OECD, "PISA 2009 Results: Overcoming Social Background: Equity in Learning Opportunities and Outcomes (Volume II)" (2010).

FIGURE 3
Accounting for socioeconomic

PISA-score point difference associated with one unit increase in the PISA index of economic, social, and cultural status in the United States, OECD countries, and Shanghai



Source: OECD, "PISA 2009 Results: Overcoming Social Background" (2010).

performing students in the United States.²⁵ (see Figure 2)

Shanghai's low-performing students also perform at a higher level than low-performing students in other international school systems. The bottom 10 percent of math students in Shanghai, for example, performs at a level that is 28 months ahead of their U.S. equivalents.²⁶

As in the United States and every school system around the world, the socioeconomic backgrounds of Shanghai students impact their performances. In Shanghai, however, the relationship between economic status and academic performance is much less significant. Shanghai students from poorer socioeconomic backgrounds are more likely to succeed than their counterparts in other education systems around the globe. The extent to which student performance is associated with a student's socioeconomic background is clearly shown in Figure 3. The steeper curve for the United States indicates that U.S. students from poorer socioeconomic backgrounds fall farther behind in their academic performance on average than students in most OECD countries and Shanghai.

Shanghai also has higher numbers of individual students from disadvantaged socioeconomic backgrounds who exceed the performance of what their poor backgrounds would predict. In Shanghai 76 percent of disadvantaged students achieve at a higher level than they would be expected to given their socioeconomic background. In the United States that figure is 29

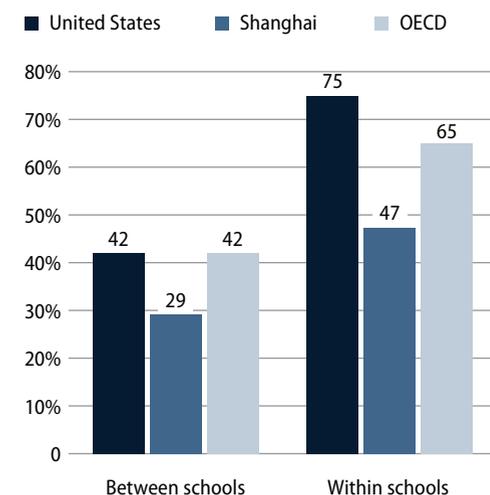
percent.²⁷ A child from an impoverished background in Shanghai is less likely to fall behind or drop out of school than a poor child in the United States.²⁸

It is important for policymakers to differentiate between so-called within-school differences in performance and between-school differences in performance. Shanghai demonstrates less variation than the United States on both of these measures. This means that not only is there less performance inequality between students within schools in Shanghai but also that there is less performance inequality between schools in Shanghai. This indicates that there is less variation in school effectiveness across the board that impedes student progress. (see Figure 4)

Shanghai's empowered-management program aims to directly address between-school variance by contracting high-performing schools to help low-performing schools. The program may also help address within-school differences, as high-performing schools in Shanghai tend to better address the issues affecting their own low-performing students than education systems in the developed world. (see box)

FIGURE 4
Measuring equity within and across school systems

Variance in reading performance as a percentage of average variance across OECD countries, the United States, and Shanghai in the 2009 PISA scores



Source: OECD. "Pisa 2009 Results: What Students Know and Can Do" (2010).

Effective programs are the answer

Across the developed world, countries are pouring money into their education systems with little demonstrable effect on performance.²⁹ It might intuitively seem that improvements to the equity of an education system will come at a high cost or that trade-offs need to be made between helping low- and high-performing students. Neither is true. The evidence shows that effective programs, rather than more money, are the answer.

High-performing education systems need to invest a minimum amount of money in their students, of course, but countries with larger education budgets do not necessarily have better education systems.³⁰ Shanghai demonstrates efficient performance on PISA evaluations, spending \$42,064 on a student's education between the ages of 6 and 15.

The United States invests more than double this amount at \$105,572 per student.³¹ But this high spending does not produce an efficient or equitable outcome. Luxembourg is the only OECD country that spends more than the United States, yet the United States finished in 17th place in the latest PISA reading-literacy rankings, and Luxembourg finished in 38th place.³²

Across PISA countries, spending per student explains less than 10 percent of the variation in student performance.³³ Gains in efficiency and equity result from how an education system spends the resources that it has available, not how much it spends.³⁴ The policies that provide genuine improvement to education are not necessarily the most expensive ones.³⁵ It is important that governments with limited resources prioritize spending on the programs that make the most difference to students.

The empowered-management program in Shanghai

Shanghai has grown considerably in recent years, from a population of 16.7 million people in 2000 to a population of more than 23 million people in 2010.³⁶ This great population influx has significantly expanded the municipality, putting considerable pressures on its infrastructure and services. This rapid growth has created challenges for all government services, and education is no exception. As with any growth, quality control of increased services for a larger population is crucial.

Shanghai's growth has led to concerns that differences in the effectiveness of schools were widening. In particular, there were concerns about the effectiveness of schools in the newer suburbs of Shanghai as compared to the city's more established schools. The empowered-management program has developed and expanded at least in part to address these concerns. (See box)

PISA scores and migrant students in Shanghai

The rapid population growth of Shanghai has put considerable pressures on its schools. Large numbers of migrants from other parts of China have settled mainly in Shanghai's suburban areas. About 12 million people now live in Shanghai's urban areas, with another 11 million people living in the wider municipality.³⁷

Many of these migrants often do not have access to the established schools in central Shanghai, and concerns have grown about the quality of education in the suburbs being provided to the students from these migrant families. The empowered-management program has evolved at least in part to help address these concerns.

In most parts of China, migrant students often must overcome hurdles to access the high-quality education received by students—particularly those living in wealthier neighborhoods—in their home

province. In the past decade, however, Shanghai has tried to address the inequities that arise with mass migration.

Migrant families living in suburban areas are included in the Shanghai education municipality. Although temporary migrant students—who are defined as having lived in the city less than six months without a residence permit—struggle to achieve a regular place in Shanghai schools, migrant students staying longer than six months or who have a residence permit can attend Shanghai schools.

All migrant students attending schools are included in the PISA sample. Shanghai's high PISA scores include migrant students, just as the scores would do in the PISA samples of other countries. At the time of the last PISA sample in 2009, there were 112,000 15-year-old students in Shanghai, and about 96 percent of them were covered in the PISA sampling. This sampling percentage is similar to that of other PISA countries.³⁸

The empowered-management program is a school-level program that helps low-performing schools improve student learning. The program contracts high-performing schools, typically for two years, to improve the effectiveness of low-performing schools.

The program is relatively new; it was developed in the decade preceding this one. Although it is growing, it currently contains fewer than 100 schools. The 2009 PISA assessment took a sample of all of the schools in Shanghai, not just those schools in the empowered-management program. It is therefore not comprehensive across the education system of the city but is instead currently targeted to lift the performance of the lowest-performing schools, which are normally chosen by school district leaders.

Like most innovative education programs, the empowered-management program is evolving in response to stakeholders and specific circumstances. Statistical analyses of the program's impact have yet to be undertaken, but policymakers at all levels of education—school, school district, municipality, and even national—consider it to be effective in addressing education inequality and improving low-performing schools.³⁹

To illustrate how the empowered-management program operates, as well as how it could be used effectively in other public-school systems, we will detail the following key aspects:

- Identifying low- and high-performing schools
- Establishing contractual agreements with schools
- Taking the necessary steps to turn around low-performing schools
- Measuring outcomes through evaluation and accountability arrangements

In the following sections of the report, we will examine each of these key aspects in turn based on our extensive research of the Shanghai education system. For a description of our research methods, see the Methodology box in the appendix.

Identifying low- and high-performing schools in Shanghai

A key initial step in the empowered-management program is to identify low- and high-performing schools. The criteria for choosing schools are not stringent, and those looking for a quantitative performance measure set by a central administration will be disappointed. Instead, responsibility for identifying high- and low-performing schools lies mainly at the school-district level, as the school district is considered to have a comprehensive understanding and knowledge of its own schools.

Given the lack of hard quantitative measures available to identify low- and high-performing schools, it is important to consider evaluation and accountability arrangements. One thing to consider is the question of how central policymakers can ensure that the right schools are chosen. The answer lies not in specific accountability arrangements within the empowered-management program but rather in broader evaluation and accountability practices.

School-district leaders, for example, have the responsibility to identify low- and high-performing schools, and they will be held accountable for their decisions. Likewise, school-district leaders are rewarded for effective practices that improve school performance. There are several factors that are used to identify schools for the empowered-management program. Let's examine some of these factors in greater detail.

School data and knowledge

Information is gathered through a number of mechanisms that connect policy and policymakers to what is happening in schools. These include standardized and school-level data on student performance and school operations. These data cover all schools, but they are not readily available to the public, and they do not easily permit strict quantitative analysis of the effectiveness of the empowered-management program.

School-district administrators must know their schools. Knowing and understanding their schools is a key component of their job description and their evaluation of school-district-level employees. This includes not only performance measures but also what is happening on a day-to-day basis in each school in the district. School-district-level education officials are in continual contact with schools—attending meetings and conducting school visits, among other things—and they work with them to improve performance. Time and energy is invested in monitoring, developing, and maintaining feedback loops between schools and the school district and in turn the municipality.

School evaluations, particularly those of low-performing schools, provide further information on performance. Evaluations include analysis of student-performance data complemented with school visits from school-district officials to observe teaching and learning. Professional-development awards, connections to the community, and extracurricular activities for students are also considered to be important.

Evaluation and monitoring

As our paper shows, the detailed evaluation of individual agreements between schools in the empowered-management program is an example of the type of information that is continually collected on school performance. It is more qualitative than quantitative, including aspects of a school's operations that are critical to increasing student learning and teachers' professional development, collaboration, and effectiveness as measured through classroom observations.

A key aspect of the Shanghai education system, which many other systems struggle to match, is that programs, and therefore resources and expenditures, are continually monitored and evaluated, with resources being reallocated when necessary.

Skills match

The fit of the two schools—one high performing and the other low performing—is important. Do the necessary skills exist in the high-performing school to support and improve the performance of the other school? This analysis varies with the type of agreement existing between the two schools and the specific issues that need to be addressed. But it is often up to the principal of the high-perform-

ing, or support, school to decide whether the school possesses the necessary skills to help the low-performing school.

In this respect, support-school principals have the chief responsibility for improving the low-performing school. Among other roles, support-school principals are responsible for developing an improvement strategy and plan, improving leadership in the low-performing school, creating structures to improve learning and teaching, and managing the relationship between the two schools.

Capacity

Capacity constraints are always considered when establishing arrangements between schools. This is a particularly important issue when a high-performing school has multiple arrangements to help several schools.⁴⁰ The support school must have the ability to help another school without compromising its own performance. As such, it must have the capacity across key areas such as teacher development and effective pedagogy that improves student learning, as well as in the skills of senior management and advanced teachers.

The goal is to ensure that any assistance to another school doesn't reduce the performance of the high-performing school. A partnership between schools, however, is not a zero-sum game. In fact, there have been numerous reports of both schools benefiting from the arrangements. Exchanges between teachers and school principals increase the flow of information and the sharing of ideas and good practices. The effectiveness of school principals, other school leaders, and teachers often improves when they are exposed to different environments, face new challenges, and take on the task of improving learning and teaching in their school system.

Similarly, effective teachers and school leaders who are close to retirement have moved to the low-performing school in some agreements, where they have been able to provide vital skills and experience.

Establishing contractual agreements with schools

The high-performing school signs a contract with the jurisdiction responsible for the agreement between the schools, which is normally the school district, in which the low-performing school is located. But if the agreement is between schools that cross school districts in the Shanghai municipality, then the municipality is a signatory to the agreement. More recently high-performing schools have formed some agreements with schools outside the Shanghai municipality, although the latter still initiates and signs the contract with the high-performing school. The objective is to spread the practices and programs in Shanghai's high-performing system to other parts of China.

The contract stipulates the requirements of the high-performing school and the support that the jurisdiction—normally the school district—will provide. The requirements include some performance targets for the low-performing school and some description of how the high-performing school will work with the low-performing school. The description is illustrative rather than overly specific, as often the problems to be addressed in the low-performing school have yet to be identified at the time of the contract signing.

Additionally, the contract or agreement will specify the timeline, cost, and monitoring and evaluation mechanisms that will be used. The contract duration is normally for two years, but some can last for as long as five years if all parties involved conclude that additional time is needed to turn around a particular school. A contract can be extended for another two-year term if both parties think that an extension would be beneficial—that is, if they agree that the first round has been positive, identifying improvement in the low-performing school but acknowledging that further gains are necessary and could be achieved. A school may be in the process of turning around its performance, for example, or specific issues may remain outstanding that can be addressed through extending the agreement.

The length of a contract depends on two factors. First, two years is considered the time period in which a school can normally be turned around. Second, two years

is the period in which a high-performing school can offer the most assistance. It is believed that a limited two-year time period pushes the support school to act in a proactive manner. But the positive impact of an external intervention in a school is not limitless. A support school can offer new programs, new learning and teaching methods, and a new culture, but a point of diminishing returns is eventually reached.⁴¹ Hence, contracts can only be extended for an additional two to three years if all parties conclude that further substantial improvements will be made in that time period.

As discussed below, the monitoring and evaluation of the contract is extensive. Clear feedback loops between the schools and the signatory school district—and thus the municipality—provide comprehensive information about the progress and outcomes of the agreement. A formal evaluation takes place at the end of both the first year of a two-year agreement and the end of the contract.

The first evaluation can lead to the termination of the agreement, but this is not common. It more often leads to changes to improve the functioning of the agreement and a school's performance. A midterm evaluation, for example, may identify the need for greater pedagogical development of key teaching staff or improved peer observation and feedback. An evaluation at the end of the agreement could lead to the payment to the support school being fully or partially withheld, but this is very uncommon.

Different types of agreements

Most agreements are between schools at the same level, be that secondary or primary. But some schools enter into an agreement that has two distinct key features. These types of agreements closely link schools on a long-term basis that extends beyond the contract period. They also link high-performing secondary schools with low-performing primary schools.

These agreements put a low-performing primary school under the umbrella of a high-performing secondary school. The primary school may change its name so that it is clearly associated with the high-performing secondary school. Students who graduate from the primary school may go to the secondary school, even when the secondary school is in a different part of the city. This immediately raises the profile of the primary school.

As there is some school choice in Shanghai, positive changes to schools' enrollment levels or waiting lists are a good measure of school improvement. If parents are not enrolling their children in a school or are taking their children out of a school, it may be a sign of poor performance. Taking a new name signals that change is occurring at the school and sends a powerful message to families and communities.

This has been particularly important in some instances. Parents and communities can resist change, particularly if they fear that their local school will be labeled as weak. But explicit links to a high-performing school are a clear signal of the potential for tangible improvements. The name change heightens the appeal of the agreement to the local community and indicates the level of investment that is being made to improve the performance of the school.

The name change also sends a powerful message to teachers and other employees. It makes it very clear that their school is undergoing an extensive process of change in order to become a high-performing school. It also increases the prestige of their jobs, as they now belong to a school associated with high-performing education. All of this makes change easier. If primary-school educators can see that a commitment has been made to sustainable reform, they are more likely to invest in it.

The name change also bonds the high-performing school with the low-performing school. The former will not want its brand tarnished. On the contrary, its brand can benefit from turning around a low-performing school. The high-performing school also benefits from spreading its brand across more schools. First, it has been publically recognized as a high-performing school. Second, it has been recognized for successfully turning around the performance of low-performing schools. And third, multiple affiliations win it more recognition around the municipality.

Additionally, a high-performing school will want to enroll capable students who come from what is now one of its feeder schools. Since more of its students will come from the low-performing primary school, it has a greater incentive to improve the learning of the primary-school students.

The steps to turning around low-performing schools

Anyone familiar with the evidence on turnaround schools will know the key changes required in schools.⁴² While different schools address problems in different ways, the fundamentals of school improvement remain constant. These are discussed later in this report, in the context of how agreements between schools operate in the empowered-management program.

The high-performing school is regularly given the responsibility to run the school with which it has partnered. Through the contractual agreement, it can effectively exercise that responsibility. In practical terms, it is common for the high-performing school to have an empowered-management team, which is often comprised of two to three senior teachers who are stationed every day in the low-performing school. The team has access to considerable resources from its “parent” school. (More information on costs can be found on page 31.) The team members are change leaders within the supported school. They may be responsible for implementing new programs or assuming key leadership positions within the school during the change period.

In some instances, teachers and leaders in the low-performing school can feel threatened or anxious about being told how to improve. This has often been successfully addressed by placing a greater emphasis on high-performing schools working with low-performing schools as peers to improve learning and teaching.

School principals have a crucial role to play as well. Some principals from the high-performing school spend considerable amounts of time in the low-performing school, while others focus more on providing regular feedback to the supported school on progress being made and how to deal with specific issues as they arise.⁴³ School staff members regularly move between the high- and low-performing schools to share resources, skills, and abilities.

A high-performing school will on occasion engage outside experts or consultants. These outside experts are often retired teachers or school principals who still want

to play some role in education. These external experts are normally used in a similar manner to school personnel involved in turning around school performance.

The high-performing school is expected to use the levers that evidence has shown to be effective in turning around school performance. These levers include:

- School leadership and strategic planning
- School culture and organization
- Effective teaching
- Student-learning behaviors
- A school's relationship with the local community

Let's discuss each in more detail.

School leadership and strategic planning

The high-performing school is expected to take responsibility for lifting the performance of the school that is seeking assistance. Staff members of the high-performing school are expected to be the key decision makers in the turnaround process; they can establish a senior-management working group with the powers and responsibilities to lead the turnaround. The team must ensure that the low-performing school becomes a dynamic learning environment. They are expected to act decisively in all levels of the school, providing feedback that allows for quick action. The leadership team should be instrumental in promoting the growth of the leading teachers in the supported school.

The responsibilities of the high-performing school team—led by their principal—will differ between agreements. In the agreement that it signs, it may take on specific responsibilities such as resource allocation and teacher appraisal and development. Most importantly, however, the support school is responsible for improving the performance of the low-performing school, and it is empowered to take the steps required to do so.

High-performing schools are evaluated on the quality of the strategic plan that they develop for their partner school. The strategic plan should follow some basic fundamental steps. It should first analyze the current situation of the school—its place on the development path and the state of learning and teaching within it. The plan then needs to map the path from the actual to the desired. The plan should also identify major problems and provide clear goals and objectives for overcoming them.

Additionally, the plan should contain well-defined systems for school improvement. It must exhibit the qualities of high-performing schools and still be aligned to the practical situation of the school that is seeking assistance. Its objectives must be scientific in the sense that they are supported by evidence, and they must be measurable, at least to some degree.

Finally, the plan should allow flexibility in its implementation so that improvements can be made and issues can be addressed as they arise. Importantly, the high-performing school is expected to gain acceptance and support from the staff in the low-performing school. This is often a difficult process, and it is one that highlights the importance of the two schools working together to turn around performance. While the high-performing school is, for instance, ultimately responsible for the quality of the strategic plan, it will regularly develop the plan in conjunction with staff of the low-performing school. (see box below)

School culture and organization

In Shanghai and around the world, high-performing schools are marked by the strength of the school culture and the quality of the learning environment. Shanghai's high-performing schools are expected to create a school culture that encourages productive learning.

This includes clearly and thoroughly articulating what learning behaviors are acceptable for teachers, students, and the school community. It also includes a strong and nurturing school culture. Extracurricular and social activities are important aspects of effective schooling and can foster effective learning and teaching behaviors. Such activities can also be important for forming strong relationships with the local community, and they are normally a feature of the strategic plan for the turnaround school.

International evidence on turnaround schools

The empowered-management program in Shanghai follows evidence from around the world about the five key steps for successfully turning around a school's performance. We discuss these steps in detail below.

School leadership and strategic planning

Strong and consistent leadership has been found to be vital in many countries.⁴⁴ Low-performing schools lack shared agreement about what is expected from teachers and students.⁴⁵ Therefore, raising expectations is critical to creating high-performing schools.⁴⁶ Improving low-performing schools is not a top-down process from government. It is one that works better if the change comes from within through the development of a culture of improvement that is agreed upon by staff, students, and parents and drives the work that they do.⁴⁷ Achieving a common mission is vital to turning around low-performing schools with disadvantaged students, who may lack enthusiasm for education.⁴⁸ School management can adopt specific programs and curriculum reforms that address specific areas in which students are failing to receive support, such as literacy or additional extracurricular activities.⁴⁹

School culture and organization

Changing the culture of the school—making a school a place where students want to be and learn—is vital.⁵⁰ Schools can provide emotional support for students through nonacademic programs, such as mentoring schemes, community service, and peer-support programs.⁵¹ Turnaround schools need to enforce a positive discipline culture, which is unequivocal on what behavior is acceptable while also recognizing that the causes of behavioral problems in these schools are often complex and may need long-term work.⁵² Schools can take

short-term remedial action to reduce truancy and should work with families to emphasize the importance of staying in school.⁵³

Effective teaching

The impact of effective teaching is well established.⁵⁴ For turnaround schools in education systems around the world, improving teaching is what drives student learning. Appropriate teacher development and professional learning equips educators with the pedagogical approaches that they need to address students' needs in line with the school's focus.⁵⁵

Student-learning behaviors

Continuous assessments and analyses of student progress are essential. They provide teachers or teams of teachers with a means of identifying where improvements can be made.⁵⁶ Schools and teachers can only improve student performance if they can identify where and why it is hindered.

A school's relationship with the local community

High-performing schools have a strong relationship with their local communities.⁵⁷ Schools need the support of parents and their communities in order to enact change.⁵⁸ An important indicator that a school is turning around is when it becomes a magnet school that attracts a growing number of families.⁵⁹ This status is often achieved through working with the community to determine its needs and wants.⁶⁰ Community engagement is also necessary to make sure that school reforms are not resisted at home.⁶¹

Effective teaching

Developing teaching within the low-performing school is a crucial element of the empowered-management program. Support schools are expected to develop a plan for improving teaching, developing staff, and improving teaching resources such as curriculum and pedagogy outlines, texts, and worksheets, which are often shared between schools.

In agreements between schools, the development of effective teaching begins with a clear and detailed description of what effective teaching should be in the supported school. In the strategic plan, this is contrasted with the current state of teaching in the school. Each staff member is given an individual development plan that is aligned to the strategic objective of effective teaching. Developing leaders among the principal senior-management team and teachers at the low-performing school is important. The goal is to develop effective teachers who can lead and develop other teachers in the school.

School staff that move between the high- and low-performing schools often participate in shared activities such as those focused on professional learning. Teachers may also form research and lesson groups. (see box below)

All of these activities form closer links within and between schools. This is important. Many policies and programs in education systems around the world have tried to form closer relationships between schools in order to share best practices.⁶² Networking brings obvious benefits. It allows the clustering of resources, which is particularly useful for smaller schools with limited means.⁶³ It enables schools to learn from other schools with specific skills in addressing problems such as student-learning difficulties. Professional collaboration between teachers can also help promote integration and reduce polarization between schools.⁶⁴

Yet the evidence shows that collaboration alone will not improve student learning. There is limited evidence as to whether partnerships improve the education outcomes of students.⁶⁵ While some studies have shown improvements, collaboration does not necessarily translate into results. The OECD's Teaching and Learning International Survey program distinguishes between two levels of teacher-professional collaboration—exchange and coordination and deeper professional collaboration that includes team teaching and other activities directly associated with teaching and learning.⁶⁶ Collaboration alone is insufficient. It must be matched with a focus on improving the quality of teaching.⁶⁷

Research and lesson groups in Shanghai

Teaching is a research-oriented profession in Shanghai. All teachers are involved in research groups that analyze and produce evidence on how to increase student learning. Research is a critical component of a teacher's job. Teachers are expected to produce research papers of sufficient quality to be published and improve pedagogy in their school and ultimately throughout the school system. Exemplary groups of teachers present research findings in open lessons to other teachers at the school-district level. Promotion to advanced- and master-teacher status requires that a candidate has published papers reviewed by an expert committee.

Research groups often contain teachers in the same subject area. At the start of each year, research groups identify a particular aspect of learning. They examine theory and evidence, and then they try different teaching practices based on their findings. Research reports in higher-performing schools are published, creating a record of pedagogical development at each school. This process is an essential part of teachers' professional learning, and it is factored into promotion decisions.

Teachers work together in lesson groups to plan lessons, examine student progress, and prepare teaching content. Lesson groups are

vital to combating inequality. Students who are falling behind and students whose learning needs are not being addressed are quickly identified and assisted.

Both research and lesson groups involve regular classroom observations, followed by constructive feedback, professional learning, and mentoring. Such collaboration is shown to have significant impacts on student learning.

Research and lesson groups are an important part of a teacher's week. The groups meet for one to two hours each week in some schools, and teachers in these groups observe each other's classes to improve learning and teaching.

Increasing the effectiveness of research and lesson groups has been considered critical in turning around a number of low-performing schools in Shanghai.

Source: Ben Jensen and others, "Catching Up: Learning from the Best School Systems in East Asia" (Victoria, Australia: Grattan Institute, 2012), available at <http://grattan.edu.au/publications/reports/post/catching-up-learning-from-the-best-school-systems-in-east-asia/>.

Therefore, the evaluation of agreements between schools ensures that cooperation within and between schools is focused on student learning. Networks are not established for their own sake, but instead to produce specific improvements in learning and teaching that are monitored and evaluated.

The evaluation of agreements between schools assesses the extent to which high-performing support schools increase effective professional collaboration in their partner schools. These assessment methods are discussed in detail below. They reflect Shanghai's view that professional collaboration is a fundamental aspect of effective schooling. From induction and mentoring programs to research and lesson groups, a number of fundamental programs in Shanghai increase active collaboration among teachers to enhance student learning.⁶⁸

Student-learning behaviors

The main objective of the empowered-management program is to improve student learning. Assessment of students' progress is monitored to form a critical element of the evaluation of agreements between schools.

The evaluation also focuses on learning behaviors. To become high performing, a school must develop the habits and behaviors of effective learning and teaching. Teachers must build on student assessments in order to improve continuous learning. Students' learning habits can then be developed through a positive school and classroom environment.

A school's relationship with the local community

Agreements between schools in the empowered-management program begin with broader strategic planning that includes a cooperation plan between families and the supported school detailing how families will become more engaged in the school and have some form of ownership of the turnaround process.

Multiple strategies are developed to strengthen links with the community and include families in the school. Examples include social and extracurricular activities that support children's learning by providing avenues for teachers, students, and parents to communicate and work together on improving each child's learning. Schools also increase home visits and seek to make these visits more meaningful.

Home visits are a feature of schooling in Shanghai. Homeroom teachers visit the home of each student and discuss his or her development and learning objectives. Depending on the school, this is normally done one or two times a year. Low-performing schools increase the frequency and effectiveness of home visits and have more detailed discussions with parents about their child's education. This is considered to be an effective method of strengthening a school's links with families and the community.

The five broad areas outlined on page 22 are consistent with the evidence on turning around low-performing schools.⁶⁹ The extent to which each area is the focus of an agreement between schools differs on the context and the nature of the issues that need to be addressed. But each component is considered important not only in improving performance but also in ensuring that change is sustainable.

There is little point in investing resources and increasing performance in a school if it reverts to previous behaviors and outcomes after the agreement ends. High-performing schools are expected to invest in changes and programs that will have a lasting impact on student learning. Still, it is recognized that this is difficult to evaluate, and the contracts with high-performing schools are paid out before long-term impacts are apparent.

Measuring outcomes: Evaluation and accountability arrangements

Extensive evaluation of the empowered-management program sends clear signals of its importance. It also demonstrates the emphasis that the program places on specific aspects of school improvement.

Evaluations are conducted at the midpoint and the endpoint of agreements between schools and prior to the disbursement of payments. A third party conducts the evaluations using guidelines established by the Shanghai municipality, and it recommends whether a contract should be cancelled or continued or concludes that it has been successfully completed.

The midpoint evaluation is essential. It sometimes reveals that reforms have failed to address low performance, and it points to improvements that need to occur and changes that need to be made. Critical issues can be identified and appropriate actions can be taken to improve school performance at this juncture. Problems such as insufficient planning or the resistance of key staff are quickly identified, and evaluators ensure that changes are made to rectify the situation.

A number of tools are used to monitor and evaluate agreements between schools, and they should be employed in the areas considered levers of school improvement. Specifically, agreement evaluations should consider:

- School leadership and strategic planning
- School culture and organization
- Effective teaching
- Student learning
- Relationship with the community

We explore each of these evaluation areas in more detail below.

School leadership and strategic planning

Evaluation of the strategy documents and planning undertaken by the high-performing school requires that evaluation teams analyze documentation and interview stakeholders. The teams interview members of the high-performing school's working group who have taken the main roles in the agreement. Their work in the school is observed with a focus on how well the strategic plan has been implemented. The leadership teams must be well structured, stable, and have clear responsibilities for implementing reform.

An analysis is made up of documentation and written records, including an assessment of the use of funds, school regulations, records of meetings with teachers and their representatives, and outcomes of meetings with the school's leadership group.

Teachers, students, and parents are surveyed to assess the impact of the strategic plan and whether it has been properly communicated to all stakeholders. This allows for a more comprehensive evaluation of the plan and its implementation, as well as identification of the strengths and weaknesses of the leadership team from the high-performing school.

School culture and organization

Evaluators find it easy to identify and monitor extracurricular and social activities such as sporting or music events, which help to develop a strong school culture. But the level of community participation and the alignment of activities with school objectives require deeper analysis.

The evaluation team analyzes documents and conducts interviews to ensure that the high-performing school has developed clear and effective teaching and learning behaviors reinforced by programs and activities that develop a strong school culture. The team uses interviews and survey data to assess the extent to which teachers, students, and the school community have accepted these new behaviors. Acceptance could be greater if the management approach of the high-performing school is seen as effective and fair.

The evaluation team also measures and observes teaching practices and student-learning behaviors, as well as whether the high-performing school is improving interpersonal relationships in the turnaround school.

Effective teaching

Evaluators assess a number of aspects of effective teaching. They analyze documentation showing teaching plans, curriculum schedules, textbooks, and other teaching materials. They assess the standard and quality of classroom teaching and students' learning habits through extensive classroom observation. And they survey and interview teachers and students to further analyze the effectiveness of teaching and the feedback mechanisms used in the school, such as feedback to teachers following peer observation.

Additionally, interviews and observation of school practices are used to assess staff-development plans and the effectiveness of teaching and research groups. Teacher interviews often focus on teachers' professional development and school-based teaching, research, and training systems.

It is interesting that no direct quantitative measures of teacher performance are used. There are no quantitative measures of teacher effectiveness or other similar indicators of student achievement used in the evaluation or in Shanghai school education more broadly.

Student-learning behaviors

Evaluators use a number of measures to assess improvements in student learning. They analyze changes in student performance on both standardized and school-based student assessments, as well as indicators of student conduct such as truancy and student academic awards. Classroom observations and teacher and student interviews and questionnaires complement quantitative data to assess the development of students' learning behaviors and study habits both in and outside of the school.

Relationship with the local community

Interviews and surveys of parents and other community stakeholders provide important data to assess changes in the relationship between the school and the community, as well as the involvement of parents in the school and their child's learning.

Evaluations also include quantitative measures such as dropout rates and waiting lists for students trying to get into the school. There are substantial positive shifts in many schools in the number of families seeking to enroll; this is seen as a key measure of improvement in Shanghai.

Survey data are used to develop a number of indices—including school-satisfaction rates—that build on rates of parent, teacher, and student satisfaction. Parent-satisfaction rates focus on parents' satisfaction with the school and, more specifically, on parents' satisfaction with teachers' professional ethics and working attitudes and the progress of their children. Student-satisfaction rates show students' satisfaction with the school and the quality of classroom teaching. Teacher-satisfaction rates focus more on teachers' impressions of the involvement of the high-performing school, as well as the changes that it implemented.

The evaluation also assesses fiscal probity, or the resources that the high-performing school has devoted to the agreement and any changes in the allocation of resources in the supported school.

Comprehensive evaluation improves the entire empowered-management program. It provides information on how elements of the program strengthen or weaken productive relationships between schools. In the early years of the program, for example, some evaluations highlighted problems stemming from a distinct power imbalance between schools. The low-performing school was “being told” how to improve or address problems. This led to feelings of persecution and reduced opportunities for meaningful exchange and learning. Poor media coverage made the problems worse, as newspapers highlighted schools identified as needing help as “weak” schools.

As a result, changes were made to ensure that schools worked more productively together on the program and that the principals of and teachers in the low-performing schools were empowered for sustainable change rather than just “told what to do.” The problems were not severe, however, and they were not evident in all agreements between schools. Nevertheless, good feedback loops and ongoing monitoring and evaluation have enabled quick improvement of the program.

Costs, impacts, and findings

Costs

The main costs of the program are the sums paid to high-performing schools each year to cover the costs of their agreements with low-performing schools. The cost of the program varies with the agreements between schools and the magnitude of the tasks for high-performing schools. Some relationships between schools, for example, focus on specific issues or even just one issue. The cost of the agreement reflects the size of the task.

High-performing schools in general are often paid 500,000 yuan a year in an agreement. This is equivalent to about \$118,650.⁷⁰ The body responsible for the agreement—either the school district or the municipality—pays the sum to the high-performing school. Over the course of the agreement, the high-performing school will incur costs, such as teacher salaries and the amount paid for a school principal's working time.

But these costs are expected to be less than the amount to be paid to the supporting school under the agreement. The difference between the income from the contract and the cost of the turnaround process is a profit that provides a financial incentive for high-performing schools to enter into these agreements.

Impacts and findings

Precise and transparent quantitative measures of how the empowered-management program impacts student learning are not available to help outside observers discern the effectiveness of the program. It is clear, however, that all levels of school education and government in Shanghai support the program and believe that it has played an important role in reducing educational inequality. Having begun in a few school districts, it has been expanded to address equity concerns

in suburban areas of Shanghai. More recently a few Shanghai schools have been contracted to assist schools in other Chinese provinces.⁷¹

The expansion demonstrates the widespread belief in the importance of the program in turning around low-performing schools. The program has improved links and relationships between schools. This is something that is often difficult to achieve. It has spawned greater knowledge of school improvement, particularly at the lower end of the performance spectrum, strengthening policy development at all levels of the education system.

Many schools in the program report improved student performance, as well as improvement in other measures such as student retention and progression to higher levels of education. And evaluations of empowered-management program agreements between schools have shown improvements in extracurricular activities and engagement with the community.

Moreover, there is some amount of school choice in Shanghai, so a key measure of success is parent demand for a place for their child within an empowered-management program school. Before the empowered-management program, many schools were considered to be failing because they were losing students and families. But the transparent rise in student performance in empowered-management program schools, as well as their stronger connections to the local communities, has created waiting lists, with families from other local areas trying to get their children into the school. Unfortunately, precise data on these schools and their waiting lists are unavailable.

Conclusion

The empowered-management program for turning around low-performing schools in Shanghai is considered effective, and it is being expanded. Based on its PISA performance, education leaders in Shanghai believe that it has helped make Shanghai the world's highest-performing education system.

Clearly, opportunities exist for educators and policymakers to learn from the Shanghai program and apply what is useful in their local context. Moreover, few aspects of the program appear to be applicable only in Shanghai. The evidence on how to create turnaround schools is remarkably consistent around the world. The empowered-management program provides a model for implementing the things that we already know matter in improving low-performing schools.

The program uses existing strengths in the Shanghai school system to help low-performing schools. Rather than applying a top-down approach, it gets schools working with one another. Educators everywhere should consider whether the methods outlined in this report to improve school performance could be effectively used to improve other areas of education.

Finally, it is again worth noting the strengths of education in Shanghai and considering the differences between teachers' work and careers there and teachers' work and careers in the United States and most other OECD countries. Shanghai makes significantly larger investments in effective professional learning, classroom observation and feedback to teachers, professional collaboration, and the development of teachers' research skills to create schools that are learning organizations. These areas are emphasized in the empowered-management program and throughout the education system in Shanghai.

About the authors

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Appendix and references

Methodology

This report builds on the findings of previous reports and analyses of high-performing school-education systems in East Asia authored and conducted by the Grattan Institute, an Australian public-policy think tank where the authors are employed. All of these reports analyzed both international and local evidence on school performance and included extensive data collection in high-performing systems.

For this report, we translated and analyzed extensive documentation provided by the Shanghai education system. We made several visits to Shanghai, which yielded a significant amount of information and local documentation. We interviewed policymakers in various roles at all levels of government. We conducted numerous school visits to observe schooling and interview school principals, teachers, and students. We verified the information where possible and only included it in this report when it was supported by a number of sources.

Endnotes

- 1 OECD, "PISA 2009 Results: What Students Know and Can Do" (2009).
- 2 See OECD, "Strong Performers and Successful Reformers in Education: Lessons from PISA for the United States" (2011). For a brief discussion of the development of this and other equity programs in Shanghai school education.
- 3 Ben Jensen and others, "Catching Up: Learning from the Best School Systems in East Asia" (Victoria, Australia: Grattan Institute, 2012), available at <http://grattan.edu.au/publications/reports/post/catching-up-learning-from-the-best-school-systems-in-east-asia/>.
- 4 Like all nations and systems participating in the PISA program, a representative sample of 15-year-old students was randomly selected from Shanghai schools in 2009. More than 5,000 15-year-old students were sampled by the OECD to form a representative sample of the 112,000 15-year-olds in Shanghai. As a point of comparison, 5,115 15-year-old students were sampled in Shanghai compared to 5,233 students in the United States. It should also be noted that school-level exclusions are in line with OECD guidelines to ensure that the sample remains representative. There is no evidence that the sample was not representative of 15-year-old students in Shanghai, nor is there evidence of any sample bias that would come from, for example, only sampling selective schools. See OECD, "PISA 2009 Results: What Students Know and Can Do."
- 5 OECD, "PISA 2009 Results: What Students Know and Can Do."
- 6 OECD, "PISA 2009 Results: Overcoming Social Background" (2010).
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- 18 Center on International Education Benchmarking, "Shanghai-China: System and School Organisation," available at <http://www.ncee.org/programs-affiliates/center-on-international-education-benchmarking/top-performing-countries/shanghai-china/shanghai-china-system-and-school-organization/> (last accessed August 2012).
- 19 OECD, "Strong Performers and Successful Reformers in Education: Lessons from PISA for the United States."
- 20 Jensen and others, "Catching Up: Learning from the Best School Systems in East Asia."
- 21 Ben Levin, "How to Change 5,000 Schools." In Andy Hargreaves and others, eds., *Second International Handbook of Educational Change* (Dordrecht, Netherlands: Springer, 2009); Ben Levin, "Approaches to Equity in Policy for Lifelong Learning" (Paris: OECD, 2003); Michael Barber, *Instruction to Deliver: Fighting to Transform Britain's Public Services* (London: Methuen, 2008); Ben Levin and Michael Fullan, "Learning about System Renewal," *Educational Management, Administration and Leadership* 36 (2) (2008): 289–303.
- 22 OECD, "PISA 2009 Results: What Students Know and Can Do."
- 23 Ben Jensen and others, "Catching Up: Learning from the Best School Systems in East Asia" (Victoria, Australia: Grattan Institute, 2012), available at <http://grattan.edu.au/publications/reports/post/catching-up-learning-from-the-best-school-systems-in-east-asia/>.
- 24 OECD, "PISA 2009 Results: What Students Know and Can Do."
- 25 Ibid.
- 26 Ibid.
- 27 PISA uses a measure of "resilience" to assess students who exceed expectations based on their socioeconomic status. A disadvantaged student is classified as resilient if he or she is in the bottom quarter of the PISA index of economic, social, and cultural status in the country of assessment and performs in the top quarter across students from all countries after accounting for socioeconomic background. See OECD, "PISA 2009 Results: What Makes a School Successful?" (2010).
- 28 OECD, "PISA 2009 Results: What Students Know and Can Do."
- 29 OECD, "Education at a Glance 2011: OECD Indicators" (2011).
- 30 OECD, "Does money buy strong performance in PISA?" (2012).
- 31 OECD, "PISA 2009 Results: What Makes a School Successful?"
- 32 OECD, "PISA 2009 Results: What Students Know and Can Do."
- 33 Andreas Schleicher, "PISA Chief Explains International School Rankings" (Paris: OECD, 2010).
- 34 Levin, "Approaches to Equity in Policy for Lifelong Learning."

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- 36 Yongyuan Yin and Guixin Wang, "Shanghai: Population Planning and Urban Sustainability." In Yongyuan Yin and Guixin Wang, eds., *Human Settlement Development*, vol. 2 (New York: United Nations Publishing, 2006); National Bureau of Statistics of China, "Communiqué of the National Bureau of Statistics of People's Republic of China on Major Figures of the 2010 Population Census[1] (No. 1)," available at http://www.stats.gov.cn/english/newsandcomingevents/t20110428_402722244.htm (last accessed September 2012).
- 37 Shanghai Highlights, "Shanghai Facts," available at <http://www.shanghaihighlights.com/essential/> (last accessed November 2012).
- 38 OECD, "PISA 2009 Results: What Students Know and Can Do."
- 39 OECD, "Strong Performers and Successful Reformers in Education: Lessons from PISA for the United States."
- 40 It is common for high-performing schools to be engaged in multiple agreements with other schools. The Shanghai Experimental School, for example, has been engaged in five agreements to help five different schools.
- 41 It is interesting to compare this to the practice in Singapore, another country with a high-performing school-education system. School principals in Singapore are rotated between schools every five to seven years. Not only does this provide the school principal with broad experience throughout his or her career, but it is also considered to be the time period in which a school principal will have the maximum impact on a school. Jensen and others, "Catching Up: Learning from the Best School Systems in East Asia."
- 42 See, for example, Bert P. M. Creemers and others, "Effective School Improvement - Ingredients for Success: The Results of an International Comparative Study of Best Practice Case Studies." In Tony Townsend, ed., *International Handbook of School Effectiveness and Improvement*, vol. 17 (Dordrecht, Netherlands: Springer, 2007); U.S. Department of Education, *Innovations in Education: Successful Charter Schools* (2004); David Hopkins, John Munro, and Wayne Craig, *Powerful Learning: A strategy for systemic educational improvement* (Melbourne, Australia: ACER Press, 2011).
- 43 Interviews with school principals emphasized the additional demands on their time as a key issue in determining whether to enter the agreement to help turn around a low-performing school. Additional time demands have resulted in some school principals declining opportunities to enter into contracts. Deputy school principals and others in senior management positions will often assume additional responsibilities at the support school. That being said, it should be remembered that when choosing schools to participate in agreements, school-district officials choose schools that they believe have the capacity to actively improve a low-performing school while maintaining their own high performance. This includes judgments about the abilities of the principals and senior management of both schools.
- 44 Christopher Day and others, *Successful School Leadership: Linking With Learning and Achievement* (Berkshire, England: McGraw-Hill International, 2011); Norman Henchey, "Schools That Make a Difference: Final Report. Twelve Canadian Secondary Schools in Low-Income Settings" (Kelowna, British Columbia: Society for the Advancement of Excellence in Education, 2001); Lance. T. Izumi, "What Works: Inside Model Charter Schools" (Lincoln, Illinois: Center on Innovation and Improvement, 2008); Richard F. Elmore, "Knowing the Right Thing to Do: School Improvement and Performance-Based Accountability" (Washington: National Governors' Association, 2003); OECD, "Measuring Improvements in Learning Outcomes: Best Practices to Assess the Value-Added of Schools" (2008).
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- 46 Adam Gamoran, "Alternative Uses of Ability Grouping in Secondary Schools: Can We Bring High-Quality Instruction to Low-Ability Classes?," *American Journal of Education* 102 (1) (1993): 1–22; Adam Gamoran and others, "Upgrading High School Mathematics Instruction: Improving Learning Opportunities for Low-Achieving, Low-Income Youth," *Educational Evaluation and Policy Analysis* 19 (4) (1997): 325–338; Lee Jussim and Kent D. Harber, "Teacher Expectations and Self-Fulfilling Prophecies: Knowns and Unknowns, Resolved and Unresolved Controversies," *Personality and Social Psychology Review* 9 (2) (2005): 131–155.
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