

TEACHING FOR SUCCESS

Teacher Policy in Shanghai and Lessons for
Central America

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EXECUTIVE SUMMARY

In this report, we review Shanghai's education system,¹ in particular the aspects related to teachers as a critical element in the system, and compare them with the situation in Central America to identify possible lessons for the sub-region. The analysis follows the PREAL teacher policy report card framework that has been developed based on the lessons learned from the application of tools suggested by several institutions like the World Bank, OECD, UNESCO and some bi-lateral agencies, to study the state of teacher policies across nine common dimensions, grouped into three categories:

- **Preparing the Way for Effective Teaching.** This category explores whether basic preconditions exist to allow for quality instruction, including clear expectations, sufficient class time, and solid teacher training.
- **Attracting, Hiring, and Retaining Talented Teachers.** This category explores whether the current systems manage to select and retain the best candidates for teaching positions, and whether teachers are given support to improve their teaching practices.
- **Managing for Good Performance.** This category explores whether teachers are regularly assessed, whether good performance is recognized and continual poor performance penalized and whether human and material resources are allocated to provide quality education for the most vulnerable children and youths.

Countries need to assess these nine dimensions when selecting and designing policies to improve teacher quality.

Our intention is to compare these dimensions with the characteristics of the Shanghai education system, identified as a case of best practice, and to use it to encourage a discussion on what can be learned to improve the quality of education in Central American countries. In concluding, we suggest recommendations for future improvements for teacher quality in the region. In particular, we focus on policy levers that strengthen teacher training and development practices and institutions, establish clear guidelines for the profession and raise the quality of applicants by increasing the prestige and professionalism associated with teaching and the education sector.

Introduction

Teacher quality has been identified as one of the most important, if not the most important, variables influencing student learning (McKinsey and Co, 2007; Chetty, Friedman and Rockoff, 2014; Jackson, Rockoff and Staiger, 2014; Araujo et al., 2016). As a result, education systems around the world are looking with much attention to the characteristics of the education systems that have the best teachers. They expect to identify best practices to see how to use them to improve the quality (outcomes) of their own education systems.

International research shows that, among education inputs and processes, one of the most effective ways to raise educational quality is to implement a good policy framework for teachers along the lines of these three categories:

- i. Preparing the way for effective teaching**
- ii. Attracting, hiring and retaining talented teachers**
- iii. Managing for good performance**

The particulars of these nine dimensions, as shown in Table I, are:

- i. Establish clear expectations for students and teachers**
- ii. Maximize the opportunities for classroom learning**
- iii. Train high quality teachers**
- iv. Select the best candidates to be teachers**
- v. Establish a structure that attracts and retains the most talented teachers**
- vi. Support teachers to improve their teaching practices**
- vii. Regular and high-quality teacher assessments**
- viii. Recognize good performance and tackle poor performance**
- ix. Provide quality education to the neediest students**

(OECD, 2009; UK Department of Education, 2012; World Bank, 2012, 2018; UNESCO, 2015; Inter-American Dialogue, 2015).

To make sure that teachers are good, education systems need to pay attention to these nine dimensions. An ample international literature supports this point (OECD 2009; Musset, 2010; Schleicher, 2012; Bruns and Luque, 2015; Tan, 2015; Schleicher, 2016). We think this framework is adequate to analyze the topic and is a good base to compare the case of Shanghai, as a strong example, with the situation in Central America. For this we use the analysis conducted by the World Bank, and the framework developed by PREAL, to identify lessons for the sub-region.

Teacher quality has been identified as one of the most important, if not the most important variables influencing student learning.

Shanghai was selected because it has a good education system, evidenced by the fact that it achieved top PISA results in 2009 and 2012 and was among the top achievers in 2015, when it participated together with three other provinces from China. Other successful cases, like Korea or Singapore, have developed similar policies and good education systems by focusing on ensuring quality primary education for the majority of their population before moving to support quality secondary education with excellent learning results. Korea did it in the 1950s and Singapore in the 1960s. They all have clear visions and focused on the needs of students from low-income families, making sure that teacher quality was critical in the delivery of good education services. Incidentally, when these last two countries started their reform, they did not have any better socio-economic indicators—including education ones—than many Central American countries do today. We are using Shanghai as the example for this paper because they started their reform more recently—at the end of the 1970s—after a period of educational disintegration

and deprivation as a result of the Cultural Revolution in China (1966-76) and because the World Bank study provides detailed information on the relevant policy (Liang, Kidwai and Zhang, 2016).

Shanghai is divided into 20 mostly urban education districts and has a GDP per capita close to \$12,000. In 2016 it had 757 primary schools (156 are private schools) with 789,700 students, and 898 secondary schools (of which 121 are private) with 667,600 students. There are 53,400 full-time teachers in primary school and 64,300 in secondary school. The student-teacher ratios are about 15:1 for primary education and about 10:1 for secondary education. Average class sizes are 39 students for primary school and about 35 for secondary (Shanghai Statistical Yearbook, 2017).

The central Ministry of Education in China is responsible for education countrywide and issues national development plans for education, including guidelines for implementation. The Shanghai Municipal Education Bureau follows the central government's reforms, and, like all other provinces, municipalities and autonomous regions in China, it produces municipal-level policies and has autonomy in implementation and financing. Education bureaus at the district level make district-level implementation plans—which are implemented at the school level—and are responsible for achieving specific outcomes. The education system in China has a centralized supervisory sector with the responsibility to monitor the objectives of the national development plans.

Although in this paper we are focusing on teachers only, we are conscious that a strong education system also

plays a role in determining the quality of the outcomes of the system (Patrinos, Velez and Wang, 2017). This combination helps to explain why Shanghai has received a top ranking in reading, mathematics and science in the last three rounds of international testing for 15-year-olds, according to the analysis by the World Bank. In several private conversations, Xiaoyan Liang and Minxuan Zhang, two of the authors of the previously mentioned report, have highlighted that the way the system grooms, supports, and manages teachers is a key characteristic of Shanghai's education system and that this is central to the efforts by the system to improve outcomes. The reason the teaching profession is highly regarded in Shanghai is not just because teachers earn relatively good and stable salaries but also because of how well they teach. They are true professionals.

The World Bank study points out that teachers in Shanghai are supported with ongoing professional development—which is collaborative in nature and focused on improving instruction—and a framework of clear learning standards, regular student assessments and a well-aligned curriculum. The study also uses this to explain the high learning achievements, showing that the assumptions of many critics who attribute Shanghai's (and East Asian countries' generally) achievements to merely "Confucius" culture, or parental emphasis on education—which they value highly—is not necessarily the case. In this paper we will describe how Shanghai's policy environment supports and develops teacher excellence according to the nine dimensions identified in **Table I** and will use it to make some suggestions for Central American policymakers when considering how to improve their education systems.

The way in which Shanghai grooms, supports, and manages teachers is a key characteristic of the education system and is central to the system's efforts to improve outcomes.

TABLE 1: TEACHER POLICY DIMENSIONS AND INDICATORS IN CENTRAL AMERICA (PREAL TEACHER POLICY REPORT CARD FRAMEWORK)

Source: Inter-American Dialogue, 2015.

PREPARING THE WAY FOR EFFECTIVE TEACHING**Establish clear expectations for students and teachers**

There are standards of what students should know and be able to do by grade and subject area, and teachers and principals are familiar with them. Teaching standards exist and are implemented and monitored.

Maximize the opportunities for classroom learning

Time on task (teacher and student absenteeism and the effective use of class time). Monitoring of attendance.

Train high quality teachers

Quality of teacher training through accreditation schemes. Alignment between standards and the curriculum. Teaching techniques and classroom practice.

ATTRACTING, HIRING AND RETAINING TALENTED TEACHERS**Select the best candidates to be teachers**

Processes to make teacher selection more rigorous (definition and implementation). Requirement of the demonstration of teaching skills in the classroom. Professional prestige.

Establish a structure that attracts and retains the most talented teachers

Nature of teachers' salaries (competitive and paid on time). Salaries are linked to teacher performance. Career advancement requirements.

Support teachers to improve their teaching practices

Selection of school principals (includes academic and pedagogical leadership). School principal training and evaluation. Use of assessment data at the school and classroom level.

MANAGING FOR GOOD PERFORMANCE**Regular and high quality teacher assessments**

System for evaluating teacher performance.

Recognize good performance and tackle poor performance

Management systems. Clear and transparent procedures for addressing cases of weak or ineffective teachers. Probationary period for teachers. Merit-based certification and promotion.

Provide quality education to the neediest students

Policies that guarantee a quality education to students from the neediest populations. Incentives to attract teachers to vulnerable areas. Training teachers in bilingual education and producing materials for indigenous groups.

Teacher Policy Indicators

PREPARING THE WAY FOR EFFECTIVE TEACHING

Establish clear expectations for students and teachers

In Shanghai, all stakeholders (parents, students, teachers and school principals and managers) have a clear understanding of the standards for student achievement. Not only are the learning standards very clear in the curriculum and learning materials, but also they are clear in the evaluation system. Crucially, these standards are understood by all stakeholders. For example in Chinese for second grade the quantitative indicator is that the student needs to recognize 2,000 common Chinese characters and write 1,000 characters. This contrasts with the case in Latin America in general where the standards included in the official curriculum are of great complexity.

To illustrate, let us see the official curriculum statement for 2nd grade in Peru (it could be any Latin American country). It includes among the abilities to be achieved things like: [Students are able to] comprehend the text being read by: anticipating the type of text and the purpose of the writing according to context (situation, motive, circumstances and medium of delivery); read individually and silently; identify text features and images such as: title, subtitle, shapes, known words; formulate hypothesis (suppositions) about the meaning of the text; test hypothesis against those of classmates and draw conclusions; synthesize information to create meaning; compare the constructed meaning with the reading of the text as carried out by the teacher.² It is safe to say that in contrast to Shanghai, in Central America although there are teaching and learning standards by grade and discipline, teachers and principals often are unfamiliar with them. Implementing these standards remains a challenge in large part because of their complexity and a lack of professional development to familiarize teachers and administrators with how to teach, measure and adjust instruction according to the standards. In fact, although many times teachers have curriculum materials, including standards, available in the school, a review conducted by the Inter-American Dialogue found that there are challenges in implementing standards, including lack of familiarity with the standards and their importance, weak mechanisms to monitor their application

and use and in some cases even a shortage of materials to support the teachers in the classroom (Inter-American Dialogue, 2015). Parents are even more uninformed.

In Shanghai, the obligations of teachers are clearly stated. There are explicit expectations about teachers' responsibilities, including in extracurricular activities and professional development. Teachers are also expected to be involved in curriculum design, school development plans, instructional improvement to strengthen subject knowledge and pedagogy and research activities, conducted by the Regional Education Authority. They are not actually responsible for the curriculum design or research, but they are consulted throughout the process. Class preparation is highly valued because it is critical for effective teaching. Therefore, in Shanghai almost half of the forty hours a week that a teacher works are spent planning and preparing lessons, and grading and correcting students' work.

Maximize the opportunities for classroom learning

One area with a clear difference in terms of policy and implementation is maximizing opportunities for student learning in the classroom. To begin with, in Shanghai—as in the rest of China—the mandated number of school days is about 200, compared with around 180 in Central America. The length of the school day is also shorter in Central American countries. Shanghai on average has two more hours of pedagogical activity per day than schools in Central America. This is a big difference, especially when there is ample evidence that the time on task is critical for results. Another point to highlight is that while in Shanghai 200 days means 200 days, in most Latin American countries, a significant number of school days are lost to teacher strikes and absenteeism, among other reasons. In other words, 200 or 180 days are a formal expectation, not actual reality. This is the case throughout Latin America, and in particular some Central American countries (Alcazar et al., 2006; Abadzi, 2009; EQUIP2, 2010). In comparison, teacher strikes are unheard of in Shanghai. Teacher absenteeism due to strikes, sick days, or simply skipping

classes is an issue in LAC,³ and in Shanghai it is minimal.

In the specific case of Central America, missing school days has become a chronic issue; not infrequently, students lose half the school year, *de facto* losing a whole school year every other year. Instructional days are lost not only to strikes, but also to teachers' association activities and even for activities organized by the ministries, like training that typically is offered during the academic year. This is a tremendous waste of time and resources (Di Gropello, 2006). In spite of the conspicuous observation (number of school days lost during any given year), there are no major established efforts in measuring this to monitor teacher attendance. Some efforts have been made, mostly with the involvement of civil society groups, but there is not evidence that they have materialized, much less produced changes.

An additional issue is how teachers use the time in the classroom. Shanghai's teachers optimize the pedagogical interaction in the classroom so their time in class is actually spent teaching. According to TALIS (Teaching and Learning International Survey), Shanghai is one of the places where teachers spend less time on keeping order in the classroom, calling attendance, and other classroom management and administrative tasks, so the average of 19.3 hours per week they use for teaching, is actually spent on instruction. Teachers are expected to facilitate learning activities in the classroom, and the system monitors their implementation. In Central America, on the other hand, there are serious limitations to teachers' ability to translate the standards and objectives into actual actions and teaching, and the systems have little capacity to support or even monitor them. For example, sometimes teachers

are not teaching but doing administrative work in the classroom, and when they are teaching, they devote too much time to non-instructional tasks. A World Bank study calculated that in Honduras only 64 percent of class time was spent on instructional time versus an international standard of 85 percent; Shanghai exceeds the standard with 86 percent of class time devoted to instruction. Additionally, around 10 percent of class time in Honduras is spent on off-task behaviors, having nothing whatsoever to do with teaching, learning or classroom management (Bruns and Luque, 2014; Liang, Kidwai, and Zhang, 2016). To make things worse, student absenteeism is also present in Central America, further affecting opportunities to learn.

Train high quality teachers

Teacher preparation is critical to develop the pedagogical knowledge and practice that will influence student learning. Because there is no substitute for this, countries all over the world that want to implement policies and processes to improve education are giving a strong emphasis to teacher preparation.

Research indicates that a teacher's pedagogical knowledge of, subject matter knowledge, experience and accredited qualifications are all factors in preparation. In other words, content knowledge and pedagogical knowledge are the pillars of effective teacher preparation. Those pillars should serve as the starting point for building education systems that prepare students to be globally competitive in the 21st century (Musset, 2010). It is also known that teachers who are well prepared remain in the profession longer and that good teachers are a key determinant in

In Shanghai, most teachers already have a four-year college degree, teachers for different subjects are well supplied and practically all are certified. It is required that all first-year basic education teachers obtain classroom experience during the first year induction program.

student success. Because of this, top performing countries emphasize pre-service teacher preparation.

In Shanghai, most teachers already have a four-year college degree, teachers for different subjects are well supplied and practically all are certified. It is required that all first-year basic education teachers obtain classroom experience during the first year induction program. So *de facto* Shanghai has a probationary period before finalizing the hiring. These first-year potential teachers split their time between teaching in the classroom and receiving training in ethics, pedagogy and student activity design. If they do not pass the test during this first year, schools have no obligation to hire them.

circle of inadequate teacher education and a long line of graduates poorly equipped to successfully handle the demands of the profession. In addition to the low-quality learning in terms of subject matter and pedagogical skills, there is also a set of weak classroom management skills. In some countries, like El Salvador, there is little connection between training programs and long-term professional development policy. Teachers are not made aware of the need to expand their knowledge and build a career path that supports student learning. Low investment in teacher training is an indicator that predicts low teacher quality and has negative implications for attracting and retaining the best candidates as discussed below (Inter-American Dialogue, 2015).

Most teachers in Central America are trained by educators who themselves have a minimal grasp of pedagogical content, creating a vicious circle of inadequate teacher education and a long line of graduates poorly equipped to successfully handle the demands of the profession.

In Central America, there are serious issues with pre- and in-service teacher training. Several studies have shown that most teachers are not proficient in the subject they teach, and many do not reach even the lowest level of proficiency, indicating that primary education teachers are not properly trained. A significant proportion of teachers are still trained in secondary education institutions (for example, in Guatemala, Honduras and Nicaragua).⁴ In general, there is little effective quality control over training institutions and most pre-service teacher training programs are not accredited, or—as in the case of Honduras—there is no nationally-regulated teacher training system. Efforts have been made to improve quality by requiring that instructors in teacher training colleges need a bachelor's degree and/or universities that train teachers should have instructors with at least a master's degree. The consequence of this is that most teachers in Central America are trained by educators who themselves have a minimal grasp of pedagogical content, creating a vicious

Another negative trend in Central America relates to the mismatch between supply and demand of teachers. Although there may be an overproduction of graduates in general, for some subject areas there is actually a deficit. For example, Guatemala's teacher education programs produce more primary school teachers than the system can absorb, but suffers from a shortage of pre-primary teachers. At the secondary level, there is a paucity of teachers in some subject areas, such as STEM and foreign languages, but not in others. The Dominican Republic suffers from a similar deficit of secondary-level math and science teachers. Meanwhile, in El Salvador, Honduras and Panama, there are many more graduates from teacher education programs than open positions each year, and few mechanisms to ensure that the best candidates are actually selected (Inter-American Dialogue, 2015; Inter-American Dialogue and Unidos por la Educación, 2018).

ATTRACTING, HIRING AND RETAINING TALENTED TEACHERS

Select the best candidates to be teachers

The highest achieving school systems in the world recruit the best and brightest students into the teaching profession. The Chinese Ministry of Education has tried a new approach to teacher recruitment: selecting students with outstanding learning performance to receive free teacher-training education in an attempt to tackle the shortage of teachers. In 2007, the State Council started to offer free teacher training in regular/traditional universities directly under the Ministry of Education, aiming to lay a solid foundation for cultivating excellent teachers and educators. Students who chose to receive free teacher-training education are exempt from paying additional fees and accommodation costs and are granted living subsidies, with all expenses financed by the central government. Before enrolling, these students are required to sign an agreement with both the teacher-training university and the provincial-level educational administration in their place of permanent residence. According to the agreement, after graduation they shall work as teachers for at least ten years; if they fail to comply, they must reimburse the government for 50 percent of the cost of their education, with their default on the agreement recorded in their credit files. Since 2006, a total of 55,000 secondary school students have enrolled for free teacher training education. The Chinese central government allocates funds for the construction of transitional housing for teachers working in rural areas, especially in areas under harsh conditions, and encourages the local governments to build housing for teachers in rural areas as part of the local housing security system. Between 2011 and 2012, the central government invested 5.6 billion RMB yuan (roughly USD \$850 million) to build 105,000 dormitories for schoolteachers in rural areas, effectively improving their working and living conditions (Xu, 2007; Li, Liu and Gao, 2012; Wen, 2012).

Education requirements to enter the profession include at least a three-year tertiary degree for primary education, and at least a four-year bachelor's degree for secondary education. Teachers also need to be interviewed by the school authorities and have to participate in a teaching assessment to demonstrate their teaching skills. In addition, Shanghai requires that all college graduates

have at least six months' classroom practice before graduation. Finally, to obtain a Teacher Certificate, interested candidates need to pass a national written test; this certificate makes them qualified to enter the profession when being recruited by schools.⁵ In spite of these requirements, competition to become a teacher in Shanghai is strong. A post-graduate degree, even from top international universities, for example, is no guarantee of a job. Schools and principals put more emphasis on pedagogical skill.

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In contrast, in most of Latin America, the selection criteria have been extremely soft. Despite policy attempts to increase the selectiveness of teacher education programs, or the level of education required to become a teacher, the consensus across countries is that these efforts have had little effect on raising the prestige associated with teaching, and therefore the caliber of candidates who apply to the profession. For example, many high school graduates study to become teachers because they were not able to pass the entrance test for other university careers. Often the teaching profession is their fourth or fifth choice. In the region some actions and policies have been found to have a more rigorous selection process to try to motivate good candidates. Initiatives such as competitive tests to fill vacancies, certifications of teachers and salary increases linked to test results have been adopted to improve the quality of aspirants. Even these, however, are not free from outside influence. For example, in Honduras, recent efforts to implement quality control measures, such as aptitude and basic competency

exams, for contracting teachers resulted in acrimonious finger-pointing and accusations of corruption.⁶ The bottom line is that seniority is still the main factor in determining promotions and salaries. These circumstances do not ensure that the best teachers reach the classroom and discourage the most talented from applying for teacher training, since recent graduates can be excluded no matter what their level of skills.

Establish a structure that attracts and retains the most talented

China has given priority status to developing its education system. As part of this focus, the salary structure for teachers has been strengthened, their social security system has gradually improved and their economic status has been enhanced. First, teacher salaries have grown steadily. In 2009 and 2010, the average annual salary of teachers in primary and secondary schools increased by 13.39 percent and 11.56 percent, respectively; merit pay for compulsory education was offered to 10.51 million teachers, and 3.82 million retired schoolteachers' living subsidies were increased (Yuan, 2011). Second, teachers' housing, subsidies, health care, pensions and other social security measures have gradually improved. In particular, the living standards of teachers in rural areas have increased significantly. In 2010, the National Development and Reform Commission and the Ministry of Education jointly launched a pilot project to construct transitional housing for teachers working in rural areas. Some local governments have formulated localized policies to address housing problems for teachers in rural areas. Meanwhile, the Chinese central government grants

an allowance to teachers working for a long time in rural areas, remote areas, and areas under harsh conditions. These measures from the central Ministry contribute to support initiatives and programs from individual provinces (Teacher Education Division of the Ministry of Education and Teacher Education Research Center of Beijing Normal University, 2011).

In 2009, the merit pay system started to be the standard policy in primary and lower secondary schools, where more than 10 million teachers obtained a guaranteed income; in particular, the salaries of the teachers in rural areas increased significantly faster than those in urban areas (Yuan, 2011). In 2011, in order to reach a more equitable balance between geographical areas, the Ministry of Education issued the *Notice on Further Promoting Incentive Merit-Pay Distribution in Schools Providing Compulsory Education*, which established performance appraisals and merit pay distribution in primary and lower secondary schools nationwide.⁷

To enlarge the pool of teaching candidates, and following national policy, Shanghai allows graduates of other disciplines to take the Teacher Certification test, and proactively recruits high-quality candidates without a teaching degree. They recruit from among the top universities in Shanghai as well as Beijing. Although salary varies according to performance and years of services, teaching is a well-regarded profession in Shanghai. It is a financially stable profession, comparable to other civil servants, and includes medical and retirement benefits. In fact, teachers in Shanghai earn up to three times the average national teacher salary. Relative starting salary⁸ in Shanghai compares with top countries in the world (like Japan or Finland), and is higher than in the US (89 per cent versus 79 percent of GDP per capita). Teachers with outstanding performance can make several times more

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than the entry-level salary because the pay structure is divided in two parts: (i) a base salary that varies by years of services and teaching rank (accredited by evaluations); and (ii) a performance-based salary (30 percent, distributed by location, workload and performance). This is attractive to newcomers who see a way to quickly earn significant pay increases through hard work and effective instruction.

Other elements that may be appealing to potential candidates are related to good working conditions, including relatively good infrastructure. All teachers are supplied with computers. The student-teacher ratios (15:1 in primary and 10:1 in secondary) are also more manageable, (lower than Japan or Korea, for example).⁹

Another element that may be appealing to potential candidates is that in Shanghai there is a tiered ranking system for teachers. Teachers can apply for either academic or administrative jobs, and within the academic track a teacher can move up because there are up to five different categories of teachers.¹⁰ Moving to a higher category implies better qualifications in the teaching profession and a salary increase. Most of the schools in Shanghai (97 percent) have a committee to evaluate teachers' qualifications for promotions. Administrative promotions are decided at the school level, while the evaluations for professional promotions are made at the district or municipal level, and the standards are set by the national education system.

The question of teacher salary in Central America, in fact in the whole Latin America region, is an antagonistic issue. Teacher salaries are competitive in the labor markets, with some countries doing better than others. For example, Nicaragua has the lowest relative salaries. In general, however, salaries have been increasing in recent years, but the increment is negotiated without taking into account teacher performance, much less student outcomes. All teachers are paid the same regardless of effort. This indeed misses an opportunity to create incentives that have proven to be efficient in increasing student learning. Opportunities to introduce a differential payment structure have not materialized. Pay by seniority is the rule with some weight given to academic degrees or diplomas or job responsibilities (for example, in the case of additional administrative work or if working in difficult geographical areas, etc.). There is also a pattern of salary compression in teaching: pay may start on par with or, in some cases, higher than comparable jobs in the private sector but typically increases only slightly during the length of a career due to seniority pay. The more compressed the

salary scale, the more teachers of varying seniority share common interests in collective bargaining over annual wage increases. This explains why the introduction of individual teacher evaluations and merit-based pay are often strongly resisted by unions, despite the promise of higher compensation for individual teachers.¹¹ An extreme case is that of Guatemala where salary increases are only granted every four years, and teachers must assume additional teaching posts in private schools in order to increase their earnings (PREAL and CIEN, 2015). Indeed, most of the teacher strikes in the region focus on the question of remuneration.

Also different from Shanghai, in Central America there are no clear opportunities for professional growth and advancement for teachers. This is a very important incentive for good teachers to remain in the system. Unfortunately, most countries do not have a clear professional development path that offers opportunities to move up the career ladder while teaching.

In summary, teachers in Shanghai have a wide range of professional career opportunities open to them. They have a decent level of pay, opportunities for advancement, and a good work environment. Central American countries have plenty of room for improvement in all these dimensions.

Support teachers to improve their teaching practices

In Shanghai, all new basic education teachers are required to complete nine days of professional development annually during the first five years of their teaching career. If a teacher wants to apply for a senior-grade rank, s/he has to complete another 67.5 days of professional development before being allowed to apply. Most of the training is delivered free of charge, and most of the direct cost is reimbursed to the teachers. This requirement guarantees that every teacher receives appropriate development opportunities and professional support when entering the profession. According to the World Bank study, on average, schools in Shanghai spend seven percent of total operational expenditure on teacher professional development. Central America spends much less.

Shanghai offers a system of well-designed and content-specific training to its teachers during the year. Compared to other countries, the required duration of the professional development in Shanghai is slightly lower than neighboring

high-performing countries such as Singapore and South Korea (about 9 days for Shanghai versus 14 days for Korea and 13 for Singapore) (OECD, 2009a). This type of training is complemented with other professional development options including the Teaching-Research Groups¹² and Lesson Observations¹³ that closely follows the Japanese “Lesson Study Approach.” These activities expose teachers to best instructional practices and leverage every teacher’s knowledge and skills to contribute to the improvement of the collective teaching community. Job-embedded teacher-to-teacher support and in-service training provide contextually relevant professional development opportunities to teachers.¹⁴ A characteristic of the Shanghai education system is that it is constantly monitoring to see what is working in other countries to pilot it and see if should be scaled up. This is what is called informally “when the East meets the West.” These two professional development models are the product of this policy.

A characteristic of the Shanghai education system is that it is constantly monitoring to see what is working in other countries to pilot it and see if should be scaled up.

National and local teacher colleges and universities and social organizations interested in the education sector offer teacher training programs, easily satisfying the diverse demand for training. In this respect, Shanghai has put particular effort into supporting less developed schools in rural areas, including management partnerships between the best urban schools and weak rural schools. All these institutions provide group training, distance training and school-based training. The curricula for training activities may be developed locally or nationally or even purchased from overseas. Training experiences are monitored and evaluated, and key lessons shared with other municipalities, provinces and autonomous regions.

In China, the Ministry of Education (with support from the Ministry of Finance) regularly provides targeted training to improve the effectiveness of teachers, especially the effectiveness of rural teachers, and thus improve the quality of education in less developed areas of the country. For example, in 2010, through the *Guopei* Initiative, the central government provided financial support to deliver a program focusing on a variety of disciplines from primary education to secondary education, and includes 67 standards.¹⁵ These standards guide curriculum design to include both the goals of ethics and professionalism, emphasizing the training of both theory and practice. Furthermore, the curriculum design is intended not only to meet current needs, but also to direct future professional development. To facilitate implementation of the curriculum, the program shared guidelines for standards usage, including an introduction of the program and the interpretation of standards, examples, operational advice and tools for curriculum design. This program piloted some new ideas, which have proven to be effective. For example, the program provides three months of full-time online training for rural teachers. While in training, the teachers are replaced by undergraduate students. The program increases training opportunities for teachers from areas where the teaching workforce is weak and at the same time allows students in teacher colleges to work in areas where they may eventually end up teaching. This program also allows teachers to choose specific curricula of interest. Teachers can also choose the time, site, content, method and training institution based on their specific needs. This autonomy greatly enhances teachers’ motivation to attend training. It also takes advantage of information and technology and provides digital resources and an interactive platform for online learning. The online platform allows teachers to make learning plans, complete case studies on lessons they teach in the classroom, finish their training homework and exchange ideas with peers. Through this online training platform, the program trained 3,000 rural teachers, benefitting rural schools in 23 middle and western provinces. Many of the lessons learned from Shanghai are included in this program (MOE, 2013).

Shanghai identifies training needs to inform the provision of tiered professional development opportunities that target teachers with different backgrounds (for example, novice teachers, mid-career teachers and senior teachers). *The Municipal Primary and Secondary School Curriculum Plan* stipulates that school leaders should create targeted teacher training plans based on the evaluation results of each teacher, and the standards to offer the training must be clear and explicit.

Interestingly, one of the biggest contrasts with the Central American context is the importance of and support for school principals as a mechanism to facilitate the job for teachers in the school. In Shanghai requirements for school principals are demanding and diverse. Incidentally, seniority is one of the less important requirements. Although there are variations from district to district, requirements include passing a written test, academic credentials and years of service in teaching and school management. Candidates are pre-selected from a pool of certified qualified candidates. In some districts this pool of certified candidates receive regular training on subjects of importance for school principals. So, they nurture the principals-to-be before they even have the job.

A growing literature, particularly from the US, shows that school principals, district superintendents and other system managers are important to explain outcomes and that the management practices they use with teachers are drivers of their effectiveness (Branch, Hanushek and Rivkin, 2012, 2013; Hitt and Tucker, 2015; Gates et al., 2014). This emerging literature also shows that some best practices can be identified from the charter school experience, where management practices correlate positively with student outcomes, and can be introduced in lower-performing schools, leading to increased student learning (Fryer, 2014). These findings support the belief that principals can increase teacher effectiveness as a way to improve the quality of education. Furthermore, school leaders and administrators play an important role in influencing teacher decisions to stay in the classroom.

Principals in Shanghai have to go through a substantive training program formally developed by the education authorities (Municipal Education Commission) and offered by a higher education institution. All first-year principals are trained for a year in School Planning, Internal Management, School Culture, Instructional Development, Teacher Growth and Adjustment to the External Environment (see **Table II**).¹⁶ The program takes place once every week for a whole year and incorporates group lectures, individual research projects, field visits, and mentoring of experienced principals for new principals. Each district and county recommends two principals, one for primary school and one for junior secondary schools. The training is held at Shanghai Normal University and at the school where the professor teaches.¹⁷

A critical aspect of school leader policy in Shanghai is that principals' salaries are linked to their job performance. As is the case with teachers, criteria include a base salary, rank-related salary and performance-based salary (nine

percent of total salary). Principals can also be promoted based on credentials, years of services, effectiveness in school management and leadership in instructional development, improving teacher effectiveness, student performance and overall school performance (based on end-of-year district evaluation of schools). To qualify for promotions, principals are required to teach at least two classes every week. As mentioned, the rank of a principal not only carries salary implications, but it also serves as an indicator of competence for further career advancement. Among the tasks that principals have to perform are: (i) develop familiarity with students' learning targets at different stages of schooling, (ii) deep knowledge of curriculum standards, (iii) lead curriculum reform efforts and the development of school-based curriculum and (iv) observe classes regularly and provide feedback to teachers on instructional improvement.

Shanghai has put particular effort into supporting less developed schools in rural areas.

Most principals in Shanghai actually do all these tasks (see **Table II**). Surveys indicate that they have the professional knowledge and managerial autonomy needed to perform the job correctly. Unlike in Central America, most principals in Shanghai can hire new teachers and dismiss ineffective ones (only a small number of districts adopt central teacher recruitment and distribution). In practice however, principals rarely dismiss teachers directly. The common practice is to demote ineffective teachers to administrative staff positions or support activities. Nevertheless, an ineffective teacher is kept out of the classroom. Principals also have the authority to determine the performance-based portion of teacher salaries to reward strong performers. Because of these policies, principals play a key role in pedagogical support and teacher management and as such in the possibility to improve outcomes.

In contrast, in all of LAC there are just a few established Principal Training Programs (One well-functioning one is in Jamaica. Two other promising models are in Peru and Argentina.), with most operating on a temporary basis

while financial arrangements last, or exist in name only, with very few outcomes to show. In Central America, few principals and school directors are, in fact, given the freedom and autonomy to effectively perform the tasks principals have to do in Shanghai, and they lack most

of the required skills. Instead, due to highly centralized systems and career ladders that favor seniority over professional and pedagogical abilities, principals in Central America are administrators instead of academic leaders.

TABLE II: REQUIREMENT FOR PROFESSIONAL SKILLS UNDER PROFESSIONAL STANDARDS FOR BASIC EDUCATION

Source: Liang, Kidwai and Zhang, 2016, from Shanghai Municipal Education Commission, 2009.

AREA	SELECTED REQUIREMENTS FOR PROFESSIONAL SKILLS
School Planning	<ul style="list-style-type: none"> i. Lead the planning and implementation of school development plans ii. Monitor school development and make adjustments accordingly
Internal Management	<ul style="list-style-type: none"> i. Establish school personnel and finance regulations ii. Ensure school safety and establish emergency management policies
School Culture	<ul style="list-style-type: none"> i. Define the school education philosophy ii. Facilitate the organization of school cultural and science-related events
Instructional Development	<ul style="list-style-type: none"> i. Execute curriculum-related guidelines and support the development and implementation of school-based curricula ii. Observe classes and provide instructional guidance iii. Lead and organize research activities and education reform to create a comprehensive learning assessment system
Teacher Growth	<ul style="list-style-type: none"> i. Ensure that every teacher fulfills the 360-hour professional development requirement ii. Develop professional development plans for individual teachers and provide target training for young teachers iii. Protect the rights of teachers and create a performance-based incentive system
External Environment	<ul style="list-style-type: none"> i. Support parent-teacher associations' involvement in school operations ii. Organize events for parents to understand students' development iii. Encourage and organize teachers and students to participate in community events

MANAGING FOR GOOD PERFORMANCE

Regular and high quality teacher assessments

It is difficult to provide a quality education without effective teachers, but it is impossible to know if the teachers are effective unless the education system regularly conducts rigorous assessments of teacher performance. To guarantee that all students receive the quality education they deserve, it is important that countries have technically solid and independent teacher assessments, based on objective and transparent criteria that take into account improvements in students' learning and are supported by a well-coordinated school administration.

China has a long history of measuring knowledge and skills. About 2,000 years ago, the imperial examinations were used as an instrument to select civil servants. Student assessments have been part of the system for a long time. More recently, teachers from schools providing compulsory education (through 9th grade) have been given performance-based appraisals, measuring professional ethics and teaching performance. These assessments guide the training programs to improve their competence and ability (Ministry of Education, 2012). Learning assessments are also standardized, and there are several systems for different levels of education and different purposes.¹⁸ In Shanghai, assessment follows a multiple-level model. At the classroom level, students participate in benchmark exams to measure their progress in each content unit. Schools carry out midterm and final examinations for key subjects (Chinese, math and English, as well as physics and chemistry in secondary school) every semester to evaluate overall student outcomes. Teachers have complete information on students' scores, and these results inform their teaching practices by: (i) determining the organization of lesson plans to review weak topics, (ii) tailoring after-class remedial instruction to individual students and (iii) producing diagnostic data identifying areas for improvement in instructional practice at the school level. It also allows the school to analyze the strengths and weaknesses of teachers to target professional development activities.

In comparison, most countries in Central America administer some form of standardized assessment, and

in several cases, extensive student performance data is collected and available to teachers and administrators. What most countries lack is a policy for developing the systems, capacity, and pedagogical knowledge for teachers to use this information for decision-making.

Shanghai administers city-wide, high-stakes exams. One is at the end of the compulsory period (9th grade). Students take the high school entrance exam covering Chinese, math, English, physics and chemistry. Physical education, lab operations and moral ethics of students also factor into their final examination score. This high-stakes exam determines the type of high school in which students will enroll: admission into highly selective comprehensive schools requires outstanding performance on the examination. Roughly half of the students who do not achieve good results will enroll in technical and vocational schools. The second large-scale, standardized assessment is administered at the end of 12th grade, when students take the nation-wide college entrance exam (Gaokao, 高考), the score of which determines whether and in what type of university the student will be able to enroll. Consistent with a tradition of examinations, Shanghai has participated in the Programme for International Student Assessment (PISA) since 2009, obtaining among the

In Shanghai, teachers have been given performance-based appraisals, measuring professional ethics and teaching performance. These assessments guide the training programs to improve their competence and ability.

highest scores. For the first time in China, Shanghai piloted the implementation of an Early Childhood Development Index that they plan to use to monitor ECD programs in the province.

All education stakeholders at the district level and the school level have access to the test results (student and school levels) and they use them to evaluate overall school performance: schools use it to assess the effectiveness of individual teachers and parents to identify the best schools for their children.

In Shanghai, all new teachers have a probationary period of one year. If a teacher fails to meet expectations during this trial period, they will not be given a contract to continue teaching.

Following national policy¹⁹ all schools in Shanghai monitor teacher performance in a comprehensive way. Among the different indicators they use are: student test results, teachers' moral ethics,²⁰ competence and contribution to the school. The monitoring is conducted using several instruments: (i) Classroom observations conducted by the school principal and senior teachers, the results of which are included in personnel files, which track work-related ranks, rewards and punishments for all public sector employees in China. These files also include teachers' development goals, training experience and awards and recognitions; they are shared with all schools when teachers request transfers. If the teacher decides to transfer, the personnel file is made available to the receiving school. (ii) There is a self-evaluation of strengths and weaknesses. (iii) Student performance based on tests. (iv) Participation in research activities. (v) Measures of interaction with students. The comprehensive assessment allows principals to have a clear understanding of where each teacher stands and offers a mechanism for principals

to provide teachers with yearly feedback to improve performance.

In Central America, there is much room for improvement in this respect and much to learn about the world's best systems of educational assessment. Teacher evaluations in Central American countries are plagued by issues of quality, stability and use. They are not systemic and of little use. In fact, there are few formalized, effective feedback mechanisms to help improve teacher performance in any way.

Recognize good performance and tackle poor performance

Many suggest that strong performance should be linked to opportunities for promotion. Teacher evaluation is important and a necessary step to move up in the ranks. As mentioned, in Shanghai all new teachers have a probationary period of one year. If a teacher fails to meet expectations during this trial period, they will not be given a contract to continue teaching. This screening mechanism ensures that all new teachers are qualified.

Accountability mechanisms are in place for teachers in Shanghai. Interestingly, passing the probationary period during the first year does not automatically guarantee tenure. Following the *State Council's Advice on Strengthening the Teaching Force*, during the first five years of their teaching career, teachers need to fulfill 360 hours of professional development to facilitate transition to the teaching world and to ensure that teachers have a minimum level of knowledge and skills. And following national guidelines (*Guidelines for Regular Accreditation of Primary and Secondary Teachers [Tentative]*), teachers are required to be reaccruited every five years in order to continue teaching. Furthermore, principals at every school conduct annual teacher performance evaluations to identify strong teachers that can become instructional leaders and, equally as important, to identify weak teachers and help them to improve. Ninety-eight percent of schools surveyed have written documentation of their evaluation system for both teachers and students. The requirements for full-time employment include passing the teacher performance evaluation and fulfilling 360 hours of professional development over the course of five years. According to the *Teacher's Law*, teachers can be dismissed for misconduct, child abuse and poor performance.

As mentioned above, a percentage of teacher compensation is linked to performance, and the proportion allocated is based on the overall results from teacher evaluations. This is only one performance-based incentive; another is the teacher career ladder. High-performing teachers can apply for higher ranking positions, which entail a higher base salary. These are national policies that have been in place since 2009 and which have been evaluated with positive results, including reducing the pay disparity between districts, since teachers in the remote rural districts tend to benefit most from the performance pay, and offer a higher motivation for teachers to engage in professional development activities that improve their performance and evaluation.

As in other economies where performance-based pay schemes are applied, there are some challenges. The most important is the relatively small magnitude of the performance pay. Controversy surrounded the initial implementation of the performance pay scheme, and although more research continues to be done on the impact of the scheme, most teachers support the policy. This is a topic of interest all over the world (OECD, 2011). Finally, the administrative processes used to deliver the program should be assessed because procedural problems could be detrimental to the original intentions of the policy (Lewis and Springer, 2008).

In Central America, countries very rarely fire poorly performing teachers. It is safe to say that except in extreme cases such as prolonged absences, child abuse or being convicted of a crime, jobs are “for life,” and there is no system to penalize poor work. Accountability is as weak as it can be. Generally, countries lack appropriate mechanisms to penalize teachers whose performance is unsatisfactory or to remove them from the education

system. Whether they formally exist or not, in practice the “exit options” from teaching are virtually nil in Central America. Moreover, the countries lack performance measurement systems that would enable them to identify and help teachers whose performance is consistently poor.

Provide quality education to the neediest students

Research in China on the demands for teacher training found it to be insufficient. Many training institutions were found to be weak and ineffective. To improve the quality of schoolteachers, especially those from rural areas, the Ministry of Education, in association with the Ministry of Finance, launched the National Program for Schoolteacher Training in 2008 (Teacher Development Research Center, NIES, 2011). The National Government approved the *National Guideline for Medium- and Long-Term Educational Reform and Development (2010-2020)* to meet the future needs of students (State Council, 2010).

China’s educational reform is changing its focus areas. According to the *Outline of the Reform of Basic Education Curriculums (2001)*, there are more student-oriented approaches to improve learning, both cognitive and non-cognitive. A new curriculum emphasizes moral education, incorporating the socialist core values and patriotic and collectivist education in order to foster a new generation with high aspirations, morality, knowledge and discipline. *The Core Competencies and Values for Chinese Students’ Development (2016)*, developed by the Ministry of Education in China, identified three competencies: cultural foundation, independent development and social participation (composed of six qualities: humanistic connotation, scientific spirit, learning to learn, healthy life,

In Central America, countries very rarely fire poorly performing teachers. It is safe to say that except in extreme cases such as prolonged absences, child abuse or being convicted of a crime, jobs are “for life,” and there is no system to penalize poor work.

taking responsibility and innovation and practice) for the overall development of Chinese students in the future.

Shanghai found itself in the same situation as the rest of China, but took the initiative to change earlier on and now is ahead of the country as a whole in this regard and has prioritized students as a central focus of the system for some time now. One particular aspect of this policy is that Shanghai provides teachers (and principals) with incentives to work in schools with students with learning disabilities or living in difficult conditions. These hard-to-staff schools, typically located in rural districts and areas with more disadvantaged students, require the support of the best teachers. To stimulate the interaction between good teachers and needy students, Shanghai has several initiatives, including flexible and temporary transfers and rotations of teachers and administrators, providing them with monetary and non-monetary incentives. Examples of incentives include offering priority admission for post-graduate studies to transferred staff, accelerating promotions in the teacher rank, offering stipends and monetary compensation and moving up retirement by one to five years. There is ample evidence that better teachers should go to earlier grades, that teachers for compulsory subjects should be well prepared and that

effective teachers should be allocated to more demanding areas/schools (Schiefelbein, Wolff and Schiefelbein, 1989; Clotfelter, Ladd and Vigdor, 2007; Vegas and Ganimian, 2013; Chu et al., 2015).

Central America can learn from countries like Mexico, which has a compensatory program that expanded coverage significantly in disadvantaged areas, mostly as a result of focusing investments in low-income areas, including indigenous schools and in new modalities of basic education schools adapted to the needs of small, rural communities. Compensatory policies in Mexico have succeeded in fairly distributing inputs (textbooks, pedagogical materials, infrastructure) and providing opportunities for teacher professional development, thereby improving the minimum resource base in marginalized schools. With this improvement in basic conditions, internal efficiency indicators have improved considerably more in areas targeted by compensatory programs than in other regions of the country. Teachers offer good reports of the training courses, but there is no evidence of the impact of the training on teacher practice or student achievement (Muñoz Izquierdo et al., 1995; Gertler et al., 2008).

CONCLUSION AND RECOMMENDATIONS

Taking information and analysis from the study by Liang, Kidwai and Zhang (2016) we have used the template designed by the Inter-American Dialogue to identify teacher-related policies and practices in Shanghai. We presented a comprehensive view of how teachers are selected, developed, supported, evaluated and motivated, showing what Shanghai does regarding the nine policy dimensions included in the instrument, all directed toward increasing the number of good teachers in the education system. In Shanghai, teachers are provided with a career ladder, supported with elaborate school-based professional development and in-service training through the teaching-research group, and their performance is evaluated accordingly, linked with career progression and performance pay. This comprehensive professional development framework incorporates multiple layers of in-service training, evaluation of teacher performance and a structured career ladder that provides both motivation and a mechanism for teachers to progress along their career. Use of information, a level of autonomy and application of accountability measures create a structure that is, in part, responsible for Shanghai's good education outcomes. The authorities know that the system can improve and are working to address even more entrenched challenges and advancing policies dealing with: (i) early childhood education (including developing of an education index measuring child development, already in its pilot stage); (ii) students' socio-emotional well-being; (iii) environmental consciousness; (iv) creativity and innovation; and even (v) global citizenship. All these elements are important and recognized to be critical for the 21st century labor market.

Independent of what Shanghai needs to do to further improve its teacher policies, we can identify what Central American countries can learn from the Chinese example if they want to improve their education systems. Incidentally, Shanghai's education authorities are constantly learning from others' experiences around the world and trying to identify what works and what does not work and why to see how they can benefit. This practice should be emulated by countries in the region.

We know firsthand that most teachers in Shanghai and Central American want their students to succeed; unfortunately the probability of success is different in the two scenarios. Some important reasons explaining the difference have to do with the policies related to teachers. It has been shown that over time, education systems produce better results when they have

teachers who are respected, prepared, selected based on merit and supported in their work (World Bank, 2018). In this final section, we present some of the policies that Central American policymakers may need to consider to improve the likelihood of success for their teachers.

1

PREPARING THE WAY FOR EFFECTIVE TEACHING

Policy mechanisms need to be put in place to strengthen the foundational elements of attracting and ensuring an acceptable quality of teachers while being realistic about institutional weaknesses that limit the implementation of quality assurance mechanisms. An essential starting point is a clear definition of educational standards for students and teachers for all grades and subjects, which are linked to the curricula in the teacher training programs. Without this, content knowledge is unlikely to improve.

A corollary policy intervention requires regulating teacher training institutions. At a minimum, governments need to support teacher training colleges and institutions that focus not only on effective pedagogical tools, methods and content but also on production of new skills (so called 21st century skills, such as the ability to work in groups and solve problems) that will be critical for entering the future labor market in a competitive economy. Related to this point of training quality teachers, one of the best policies Central American countries can take from the Shanghai experience is to make sure that pre-service teacher education includes a combination of technical learning and practical, classroom experience. New teachers in Central America tend to lack classroom management and instruction skills, which affects the quality of whatever they do during the first years of work. These skills can be systematically provided in advance. Unfortunately, support of new teachers tends to be weak, so this type of pre-service training must be made mandatory.

It is important that countries define a basic professional development framework for teachers. This requires strengthening teachers' skills by shifting resources and giving priority to the type of training that will change teacher performance in the classroom. Simple things, like teaching reading in early grades, can be some of the most cost-effective policies for improving basic education in Central America. Over time, countries need to explore the possibility of adapting the Japanese lesson study approach, as Shanghai and others have done.

2

MAXIMIZE THE OPPORTUNITIES FOR CLASSROOM LEARNING

Realizing that the political economy elements related to this topic are complex, if Central American countries do not increase actual pedagogical time in the classroom, most of the resources invested in the sector will be wasted. There is no way around this topic. Some examples from Central America already exist on how to make this happen. For example, di Gropello (2006) showed that school-based management models (like EDUCO in El Salvador or PROHECO in Honduras) increased teacher presence in the schools. This finding is consistent with what has been observed in other regions of the world using similar decentralization strategies. Administrative practices, such as keeping order in the classroom, calling attendance and other classroom management and administrative tasks, should be minimized. The Escuela Nueva (EN) model used in different programs across the region (in Brazil, Colombia, Guatemala, Nicaragua and Peru, for example)²¹ has proven to be effective at reducing the time spent on these activities in favor of having more time dedicated to real teaching and learning. In **Box I**, we present this and other elements shared between the EN model and the Shanghai education system.

Central American teachers tend to advance like steamrollers: straight ahead at the same speed, teaching in one way to all students and asking all students to do the same thing (called the frontal method). This is also known as the 'hit and miss' approach versus the 'pay-attention-to-individual-differences' approach, so that some individual learning happens in the classrooms. This is also generally associated with the fact that in most classrooms in the region, teachers are the main source of knowledge. In Shanghai, teachers are more facilitators of learning and try to keep everybody engaged in the learning process, so that high standards are applied to all students, even to those who get lower scores in tests. Again the Escuela Nueva approach may be an answer to this problem (see **Box I**).

BOX I: COMMON ELEMENTS FOUND IN THE ESCUELA NUEVA MODEL AND SHANGHAI'S EDUCATION SYSTEM

Source: Liang, Kidwai and Zhang, 2016; Chi, Colbert and Velez, 2017.

DIMENSION	ESCUELA NUEVA (EN)	SHANGHAI
Establish clear expectations for teachers and students	Student and teacher guidelines clearly state learning objectives for every lesson in each academic subject. Teachers have clarity about what students need to learn.	There are clear standards for learning objectives in curriculum, learning materials and assessment. Teachers design detailed lesson plans based on standards (these are similar to those included in the guidelines in EN). Teachers are experts in the content areas and skills students need to acquire every year.
Train high quality teachers	Learning Cycles are an instrument for in-service training. There is a mandatory interaction between EN teachers to learn from each other on how to teach more effectively.	Professional development is collaborative in nature and focused on instructional improvement. The use of the Lesson Observation (a la Japan's Lesson Study Approach) is a way to implement best practices in the classroom.
Provide quality education to the neediest students	The student is at the center of the learning environment, and a variety of pedagogical modalities are used, recognizing that different students learn in different ways. Paradoxically, these modalities free the teacher to spend more time working directly with students that are behind. Active learning pedagogy is the key to promoting student cognitive and non-cognitive skills development.	The focus is on improving students' learning (student-centered focus as in EN), and teachers are specifically instructed to deal with struggling students. As in EN classes, class time is well defined (there is almost a script to follow), and teachers have more time to work with students in small groups.
Regular and high quality assessment	Formative evaluation and continuous assessment are key components of EN. Each student self-evaluates his/her learning at the end of each learning objective, with flexibility for students to study at their own pace. Teacher provides feedback to each student and approves moving to next learning objective.	Weekly/biweekly subject quizzes to assess each content unit. Student performance is often ranked and compared at the class, school or district level after mid/final exams to inform students, parents and teachers. Teachers must assign homework and give feedback to each student.
Maximize the opportunities for classroom learning	Students follow procedures to self-report daily attendance and classroom management. Because several of the pedagogical activities do not require constant supervision from teachers, in general there is more pedagogical interaction, and teachers are free to focus on students with more needs as stated above. This contrasts with the traditional frontal teaching method typically used in Central America.	According to a TALIS study (OECD, 2014), in Shanghai teachers spend more time on pedagogical interaction with students than in any other OECD country. In addition, teachers spend less time keeping order in the classroom. Eighty-six percent of class time is spent on teaching, compared with an average of 79 percent for OECD countries.

3

ATTRACTING, HIRING AND RETAINING TALENTED TEACHERS

To improve the quality of any education system and attract high-quality candidates, it is critical to offer competitive compensation and an attractive professional environment founded on respect and support. With better candidates, education systems can be selective, and, when combined with a process of support and effective professional development, this leads to more effective teachers and greater respect for the profession. This should be a long-term goal for Central American countries, but to move in that direction they need to develop a system of support.

This system of support should begin with the assumption of an open-door policy²² based on the knowledge that new teachers need support and that it is the role of all stakeholders in the education sector to provide that help. The mentality of constant improvement on the part of teachers, as in Shanghai and other countries, is essential for professional development activities. At a minimum, countries should promote the idea that peers, principals and supervisors provide support, and teachers must get used to being observed and critiqued, and accept feedback to improve their teaching practices. Related to this point is the need to establish a mentality of aligning teaching with clear learning goals based upon the curriculum and educational materials. The Escuela Nueva model, at some points implemented in Guatemala and Nicaragua with clear success, may be a way to achieve this. In fact, in the most recent systemic coverage of the Escuela Nueva model in Vietnam, the model improved education outcomes for third- and fifth-grade students. Based on a randomized impact evaluation study, students in the Escuela Nueva model produced significantly better results than students in the regular education system in both non-cognitive and cognitive skills (Parandekar et al., 2016).

Principals are the forgotten stakeholders of the education system in Latin America. Programs specifically designed to support them are few and far between, and there are no studies showing their effectiveness (most have been implemented for a relatively brief period of time). This is an area for development, and the recent experiences from Argentina and Peru should be monitored to learn lessons for the region. Central American countries need to start programs right away to strengthen the capacity of school principals. Based on international experience, Argentina has been training school principals following the Leadership and Educational

Innovation Program (PLIE, from the Spanish *Programa de Liderazgo e Innovación Educativa*) designed by the Varkey Foundation with support with the University of London. This model, adapted to the particular conditions in each province, includes the following elements:

- i. **Educational leadership for organizational development and school reform:** Effective leadership requires building teams.
- ii. **Management of technological integration:** Information technology to transform the efficiency and effectiveness of schools.
- iii. **Lead and manage learning, creativity and curriculum innovation:** Effective school leaders foster the evolution of a climate where original thinking enhances the learning experience and leads to curricular innovation.
- iv. **Leadership to guarantee quality and improve performance in the teaching and learning process.**
- v. **Professional development of teacher leaders:** Lifelong learning is a philosophy and a habit that must flow through the entire learning community.
- vi. **Lead and develop relationships in an educational community:** Successful schools are at the heart of their local communities.

Peru is also making a special effort to train school principals following similar topics. These are related to the ones used in Shanghai and presented in **Table II**.

4

MANAGING FOR GOOD PERFORMANCE

The responsibilities assigned to school authorities, teachers and principals should be explicit. Teachers and principals are responsible for effectively executing teaching and learning activities and administration in schools. Currently, teaching regulation, the content of education and the curricula and the nature of the examination and evaluation system is centralized in the Central American countries. School principals and teachers should carry out the educational and teaching activities according to the educational and teaching content and curricula determined by authorities to guarantee the quality of education prescribed by the state.

We do not think the necessary conditions are in place to propose a selective competence-based test to hire teachers, much less to introduce a performance-based wage system for Central American countries. Although these are policies that may help explain the success in Shanghai, the sub-region should look at other alternatives that may be more realistic in the short-term. As there is clear evidence that not all graduates from teacher education programs are ready to teach, we propose governments follow these two practices from Shanghai:

i. Raise the standards for admission to teacher training

ii. Develop a one-year induction program for all new teachers as a mechanism to certify new teachers and make this a requirement to hire them

The first recommendation may be accompanied by a fellowship program for the best applicants, and the second by a strong mentoring and coaching program.

Across the region, several countries have institutionalized reward schemes to recognize the best teachers (and principals) for their excellent performance and elevate the profession and help teachers (and principals) to feel honored and supported. The Colombian COMPARTIR model is a case in point. Central American nations may want to make this a component of their respective education systems.²³

A final point of emphasis is the need to inform and engage critical stakeholders at the system level to plan the implementation of the policy in sequence. First, effective communications strategies have been key to the adoption of major teacher policy reforms in Ecuador, Mexico and Peru (Bruns and Luque, 2015). Presidents Correa and García of Ecuador and Peru, respectively, as gifted communicators, were successful in mobilizing popular support in the face of strong union opposition. Successive ministers in Ecuador and Minister Saavedra in Peru were active and effective communicators throughout the implementation of these reforms (Bruns and Schneider, 2016). Secondly, in some of the more complex policies, like teacher compensation, the order in which reforms are pursued is crucial to their potential for success. A well-functioning assessment system is a prerequisite to establishing school or teacher bonus pay. Similarly, it is generally better to introduce less controversial reforms first. For example, teacher unions are generally less opposed to collective, school-based performance incentives or bonuses (Mizala and Schneider, 2014). Once collective incentives are in place and functioning, individual incentives may become more acceptable to teachers (though not necessarily to unions). This was the evolution in Chile (Bruns and Schneider, 2016). Similarly, reformers in several countries—Chile, Colombia, Ecuador and Peru—started with voluntary evaluations for in-service teachers and accompanying bonuses before moving (in the cases of

Colombia, Ecuador and Peru) to compulsory evaluations and more systematic, merit-based pay (Bruce and Schneider, 2016).

5

DEVELOP INPUTS AND INFRASTRUCTURE TO FACILITATE EDUCATIONAL EQUITY AND ACCESS TO SUPPORT THE MOST VULNERABLE

When Latin American countries have designed education packages, including practical teacher training and pedagogical training to supervisors to target the most vulnerable, good results have been observed. A case in point is the previously mentioned compensatory education projects in Mexico's states with the worst education indicators where, in the 1990s, quality of education improved after the federal government decided to invest additional resources in a comprehensive policy to support teacher training, new textbooks for reading (in both local and national languages), infrastructure and equipment, supervisor training and community management of monetary incentives to teachers in rural isolated areas (Muñoz Izquierdo et al., 1995). Central American countries must make sure that vulnerable populations are served by high-quality teachers and supported by an education system with the necessary resources.

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ENDNOTES

1. We draw heavily from a recent World Bank study: *How Shanghai Does it: Insights and Lessons from the Highest-Ranking Education System in the World*. X. Liang, H. Kidwai and M. Zhang, Washington DC: The World Bank, 2016.

2. Luis Crouch did a thorough analysis of this topic when studying the quality of education in Peru (see World Bank, 2006) concluding that one of the most difficult topics to evaluate is precisely the learning expectations that stakeholders need pay the most attention to.

3. See Bruns and Luque, 2015, where the authors conclude that teacher absenteeism together with poor preparation, low skill level and pay contribute to cheat students out of a quality education.

4. Starting in 2018, all newly contracted teachers in Honduras must have at least a university diploma (IPEH, 2017).

5. For basic education the exam includes two subjects: (i) general comprehensive on teaching philosophy, education laws and regulations, ethics, cultural literacy and general abilities; and (ii) teaching knowledge and abilities, including student guidance, classroom management, subject knowledge, class design and implementation, evaluation. For secondary education, candidates need to take subject-specific exams. Only those with a passing grade in the written test can move to the interview stage.

6. <http://www.latribuna.hn/2017/11/02/listos-15-mil-docentes-concurso-plazas-nivel-nacional/>; <http://www.latribuna.hn/2017/10/27/cna-exige-suspender-concurso-docente-anomalias/>

7. There is a guideline for merit pay in primary and secondary schools. It emphasizes that workload conversion should be reasonable to prevent differences among teachers. Schools should have clear job responsibilities when setting up a post allowance. The administrative department of education at or above the county level (local government) shall draw up a relatively unified number of hours per class and management workload according to their actual situation. The revised final regulations must be approved by the school's faculty representatives.

8. Teachers' salary in comparison with GDP per capita.

9. Maximum class size allowed is 40 for both primary and secondary education.

10. The rank is as follows: 1 for third-grade teachers (requirement is one to three years of service); 2 for second-grade teachers (three to five years of services plus

school evaluation); 3 first-grade teacher (at least five years of services, school evaluation and district evaluation); 4 senior-grade teacher (at least five years of service, school evaluation and district evaluation); and 5 outstanding teacher (granted to teachers with outstanding teaching practices).

11. For a discussion of teacher salary issues in Latin America see Vegas, 2005, and Mizala and Ñopo, 2016. For OECD countries where a similar pattern is observed, even in cases like Chile where some dimension of merit-based pay has been successfully introduced, see OECD, 2010, and Mizala and Schneider, 2014.

12. Since the end of the 1950s, China has promoted teaching research groups allowing teachers to conduct analyses and exchange findings and ideas on pedagogy and curriculum to improve teaching quality. Small groups meet once a week for 2-3 hours. Senior teachers generally manage the meetings, and areas to cover include: research on subject content and pedagogical practices, induction of new teachers and teacher performance evaluation by teachers within the same group.

13. Teachers do this throughout their career in Shanghai. This is a way for young teachers to learn good practices from experienced ones. But senior teachers also observe junior teachers to provide feedback. Participation in these lessons is included as part of the yearly teacher evaluation.

14. There is a multi-level and multi-disciplinary teacher training system supporting teachers. Teachers should get credits based on the requirements for the teacher training programs, choosing courses at school (40-50%), district (20-30%) and municipal (10-20%) levels. Training is supervised and managed at the district and county level under the coordination of the municipality.

15. These 67 standards are based on the subjects and levels of education they offered. The standards are used to guide teacher training and teacher group study on the curriculum of different subjects (Chinese language, math, English language, morality, physics, chemistry, biology, geography, music, art, information technology, physical education and health, psychological health education, etc.) at primary, junior and senior secondary education. It also includes curriculum standards targeting administrative staff, special education teachers, kindergarten teachers and lead teachers. All together there are 67 standards.

16. This program has been supported by the Ministry of Education since 2012.

17. See <https://www.shmec.gov.cn/html/xxgk/200707/406122007002.php>.

18. In China, there are common standards for curricula and a unified assessment system of students' learning. The state adopts a national examination system of education. The national examinations are categorized by the central government and are to be conducted by institutions authorized by the state to organize examinations. This system includes entrance examinations—such as admission examination of universities—admission examination of senior high schools and entrance examinations of graduate schools. It also includes qualifying examinations, such as unified examinations in the last year of junior secondary schools and senior secondary schools, examinations of second languages and examinations of competency of using computers. Again, Shanghai follows these policies. But the common standards for curricula and the unified assessment system of student's learning are receiving more and more intense challenges. The unbalanced distribution of education resources and results in China has some doubting the usefulness of the unified curriculum and assessment system and whether or not they can properly respond to the different education conditions in different areas (Pei, 2004).

19. 2012 *State Council's Advice on Strengthening the Teaching Force*. Available at http://www.gov.cn/zwggk/2012-09/07/content_2218778.htm

20. "Several Opinions on Strengthening the Construction of Primary and Secondary School Teachers' Professional Ethics" sets forth requirements on the moral ethics that teachers should follow in China: (i) Teachers must love the motherland, support socialism and the leadership of the Chinese Communist Party. They cannot violate the party's and state's principles and policies. (ii) Teachers must be willing to devote themselves to a high degree of responsibility for their work including preparing lessons carefully, correcting homework seriously and teaching students patiently. (iii) Teachers must care for students, respect students' personality and treat students equally and justly. They have the obligation to protect the safety, rights and interests of students and do not have the right to administer corporal punishment to students. (iv) Teachers must implement quality education, cultivate students' good conduct, inspire students' innovative spirit and promote students' all-round development. (v) Teachers must adhere to noble sentiments, be strict with themselves, be well-dressed and use proper language. They have to work in a decent style, conscientiously resist paid private tutoring and cannot use their positions for

personal gains. (vi) Teachers must adhere to lifelong learning, advocate scientific spirit, be brave to explore innovation and constantly improve professionalism and teaching level.

21. Unfortunately some of these countries have stopped supporting the model.

22. Teachers throughout Latin America are rarely observed in the classroom, so no feedback is regularly provided to them by supervisors, tutors or peers.

23. The *Premio Maestro 100 Puntos*, supported by *Empresarios por la Educación* in Guatemala, is an example of an initiative that rewards and recognizes outstanding teachers.

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