



### Policy Goals

- 1. Setting Clear Expectations for Teachers**  
Clear expectations have been established for what students should learn and what teachers should do in Singapore.
- 2. Attracting the Best into Teaching**  
Singapore is able to attract the best students into teaching with the right blend of conditions and incentives.
- 3. Preparing Teachers with Useful Training and Experience**  
Singapore prepares its teachers through a holistic programme involving both pedagogical and practical training.
- 4. Matching Teachers' Skills with Students' Needs**  
The deployment of teachers to schools via centralized decision-making bodies and the use of Allied Educators have helped to respond to various students' needs.
- 5. Leading Teachers with Strong Principals**  
Principals undergo extensive training to broaden their perspectives on leadership and imbue them with a sense of vision.
- 6. Monitoring Teaching and Learning**  
An integrated performance management and evaluation system has been designed to objectively and accurately monitor a teacher's performance over time and provide feedback for continual improvement.
- 7. Supporting Teachers to Improve Instruction**  
A variety of professional development initiatives are available for teachers.
- 8. Motivating Teachers to Perform**  
Monetary as well as non-monetary incentives are provided for maximum performance.

### Status



Data collection on Singapore's teacher policies was completed in 2015. Consequently, the findings in this report reflect the status of the country's teacher policies at that time.

## Overview of SABER-Teachers

There is growing interest across the globe in attracting, retaining, developing and motivating great teachers. Student achievement has been found to correlate with economic and social progress (Hanushek and Woessmann, 2007, 2009; Pritchett and Viarengo, 2009; Campante and Glaeser, 2009). Teachers are the key. Recent studies have shown that teacher quality is the main school-based predictor of student achievement; several consecutive years of outstanding teaching, moreover, can offset the learning deficits of disadvantaged students (Hanushek and Rivkin, 2010; Rivkin, Hanushek and Kain, 2005; Nye and Hedges 2004; Rockoff 2004; Park and Hannum, 2001; Sanders and Rivers, 1996). However, formulating appropriate teacher policies to ensure that every classroom has a motivated, supported and competent teacher remains a challenge. Evidence on the impacts of many teacher policies remains insufficient and scattered, the impact of many reforms depends on specific design features, and teacher policies can have quite different impacts depending on the context and other education policies already in place.

**SABER-Teachers aims to help fill this gap by collecting, analysing, synthesizing and disseminating comprehensive information on teacher policies in the primary and secondary education systems around the world.** SABER-Teachers is a core component of SABER (Systems Approach for Better Education Results), an initiative of the World Bank Education Global Practice. SABER collects information on the policy domains of different education systems, analyses it to identify common challenges and finds solutions, and makes this information widely available to inform countries' decisions on where and how to invest in order to improve the quality of education.

**SABER-Teachers collects data on ten core areas of teacher policy to offer a comprehensive descriptive overview of the policies in place in each participating education system (Box 1).** Data are collected in each participating education system by a specialized consultant using a questionnaire so as to ensure the comparability of information across different education systems. Data collection focuses on the rules and regulations governing teacher management systems. This information is compiled in a comparative database. Interested stakeholders can access the database for

detailed information, which is organized into categories that describe how different education systems manage their teaching force, as well as copies of supporting documents. The full database is available on the [SABER website](#).

### Box 1. Teacher policy areas for data collection

1. Requirements to enter and remain in teaching
2. Initial teacher education
3. Recruitment and employment
4. Teachers' workload and autonomy
5. Professional development
6. Compensation (salary and non-salary benefits)
7. Retirement rules and benefits
8. Monitoring and evaluation of teacher quality
9. Teacher representation and voice
10. School leadership

**To offer informed policy guidance, SABER-Teachers analyses these data to assess how well each system's teacher policies promote student achievement, based on the global evidence to date.** Specifically, SABER-Teachers assesses each education system's progress in achieving eight teacher policy goals (Box 2).

### Box 2. Teacher policy goals for evaluation

1. Setting clear expectations for teachers
2. Attracting the best into teaching
3. Preparing teachers with useful training
4. Matching teachers' skills with students' needs
5. Leading teachers with strong principals
6. Monitoring teaching and learning
7. Supporting teachers to improve instruction
8. Motivating teachers to perform

Figure 1. Eight Teacher Policy Goals



**All high-performing education systems fulfil these eight teacher policy goals to a certain extent in order to ensure that every classroom has a motivated, supported and competent teacher.** These goals were identified through a review of research studies on teacher policies, as well as an analysis of policies of top-performing and rapidly improving education systems. Three criteria were used to identify the teacher policy goals, which had to be: (1) linked to student performance through empirical evidence; (2) a priority for resource allocation; and (3) actionable, meaning they identify actions that governments can take to improve education policy. The eight teacher policy goals exclude other objectives that countries might wish to pursue to increase the effectiveness of their teachers, but on which there is too little empirical evidence at present to allow for specific policy recommendations.

**By classifying countries based on their performance in each of the eight teacher policy goals, SABER-Teachers helps diagnose the key challenges to cultivating effective teachers.** For each policy goal, the SABER-Teachers team identified policy levers (actions that governments can take to reach these goals) and indicators (that measure the extent to which governments are making effective use of these policy levers). Using these policy levers and indicators, SABER-Teachers classifies the progress of education systems towards achieving each of the eight teacher policy goals using a four-tiered scale (latent, emerging, established and advanced). The scale assesses the extent to which a given education system has set the type of teacher policies related to improved student outcomes (Annex 1). The main objective of this assessment is to identify

the strengths and weaknesses of the teacher policies of an education system and pinpoint possible areas for improvement (Vegas et. al, 2012).

**The main focus of SABER-Teachers is policy design, not policy implementation.** SABER-Teachers analyses the teacher policies formally adopted by a given education system. This type of analysis is an important first step towards strengthening the policy and institutional frameworks that policy-makers most directly control and that influence how well a system functions. At the same time, policies 'on the ground', i.e. policies as they are actually implemented may differ quite substantially from policies as originally designed. In fact, they often do differ due to the political economy of the reform process, lack of capacity on the part of the organizations responsible for implementing them, and/or the interaction between these policies and specific contextual factors. Since SABER-Teachers collects only limited data on policy implementation, the analysis of teacher policies presented in this report should ideally be complemented with other data-gathering efforts that focus on how well teacher policies are actually implemented on the ground.

**This report presents the results of the SABER-Teachers tool as applied in Singapore.** A collaborative effort between the **UNESCO International Task Force on Teachers for Education 2030** and the **World Bank Group's SABER-Teachers initiative** made this report possible. All data collection, related analysis, and report preparations were completed by UNESCO using the World Bank Group's SABER tools. The report describes the performance of Singapore's education system in achieving each of the eight teacher policy goals. It also contains comparative information from education systems that have consistently scored highly on international student achievement tests and those that have previously participated in the SABER-Teachers initiative. This report has been formally endorsed by the Ministry of Education of Singapore. Additional information on the teacher policies in the education systems of Singapore and other countries can be found on the [SABER-Teachers' website](#).

## Singapore Context

### Economic Context

Singapore is well-known as an economically developed island city state in South-East Asia. Since its emergence as an independent country in 1965, it has rapidly developed due to its openness to world trade and its emphasis on nurturing human capital, despite its lack of natural resources. Singapore presently maintains its status as a global hub for trade, finance and transport.

Singapore was ranked first out of 189 countries in the 2015 and 2016 'Ease of Doing Business' rankings (IBRD, 2015). It also ranked second in the Global Competitiveness Index of 2015 (World Economic Forum, 2015) and fourth in the 2015 edition of the Global Financial Centres Index (Z/Yen Group Limited, 2015), a commercial think-tank based in London.

### Education Context

Singapore's education system is well established as a high-performing model. Singapore has participated in various international student learning assessments, including the Trends in International Mathematics and Science Study (TIMSS), the Progress in International Reading Literacy Study (PIRLS) and the Programme for International Student Assessment (PISA). In 2012, Singapore was second in mathematics, and third in science and reading in the PISA rankings.

Singaporean students typically undergo six years of primary education and four years of secondary education followed by post-secondary education at junior colleges, polytechnics or institutes of technical education, with the possibility of progress towards an undergraduate degree at a public or private university (including those overseas). As of 2015, there were a total of 336 public schools providing primary and secondary education.

Singapore's education system has continually re-positioned itself to meet global as well as local needs and aspirations. For example, it undertook a re-branding exercise in 2012 with the vision of 'Every School a Good School' to promote a holistic approach to secondary education, as opposed to being driven purely by academic results. In 2015, the vision 'Multiple Pathways – Meaningful Pathfinders' was implemented to facilitate

different routes for students of differing abilities, talents and interests.

### Teacher Policy Context

The Ministry of Education (MOE) is responsible for setting teacher policies, and is assisted by the National Institute of Education (NIE), which is responsible for teacher training and professional growth. The Academy of Singapore Teachers also plays a role in promoting excellence in professional development for teachers throughout their careers.

Education and, more specifically, teacher-policy is consistently forward-looking. For example, the MOE recently developed a twenty-first century competencies framework (21CC) to encourage holistic education for Singaporean students. In line with this, the NIE developed a Values, Skills and Knowledge framework (V<sup>3</sup>SK) to ensure that teachers are properly equipped with an enhanced sense of the role they play in the wider community and society.

## Singapore's Teacher Policy System Results

### Goal 1: Setting clear expectations for teachers

#### Advanced ●●●●

Setting clear expectations for student and teacher performance is important for guiding teachers' daily work and aligning the resources necessary to help them constantly improve their instructional practice. In addition, clear expectations can help to ensure coherence among the various key aspects of the teaching profession, such as initial teacher education, professional development, and teacher appraisal.

SABER-Teachers considers two policy levers that school systems can use to reach Goal 1: (1) clear expectations of what students should know and be able to do; and (2) useful guidance on the teachers' use of time in order to improve instruction at the school level.

#### Policy

**(1) In Singapore, the MOE has established what students should learn and what teachers should do.** The MOE is responsible for setting education goals and controlling the national curriculum across primary and secondary schools. The national curriculum provides a framework for meeting national learning and teaching expectations. Schools and teachers have some leeway in implementing the individual subject syllabi, as well as the teaching methodologies they consider most effective in promoting active and effective student learning.

Teachers' tasks are officially stipulated. Consistent with the practice of some high-performing systems, these include teaching, supervision, and the grading of assessments, but go further to encompass the integration of difficult student populations, mentoring and supporting other teachers, and participating in administrative and management duties, curriculum design, and evaluation (Table 1).

Well-defined career tracks and performance monitoring enhance the clarity of expectations. The clarity of teachers' tasks is enhanced by the implementation of various career ladders that facilitate the cultivation of specialized expertise. These include the Teaching Track

(with a focus primarily on teaching excellence), the Leadership Track (which provides an opportunity to take on leadership and administrative positions in schools and at the MOE), and the Senior Specialist Track (for those inclined towards curriculum development, design and instruction, as well as research).

The Enhanced Performance Management System (EPMS), launched in 2003, also clearly states the skill sets and competencies required at each career stage, which helps teachers track their goals, development and achievements over time (see further below).

**(2) Teachers' working time in Singapore encompasses a range of duties and responsibilities.** Teachers' working time in Singapore is officially defined as the overall number of hours spent at school (as opposed to the number of hours worked). Each week, teachers are expected to spend about 17 hours teaching, 17 hours on planning or the preparation of lessons either in school or out of school (including marking), 5 hours on administrative duties, and 13 hours on student counselling, extra-curricular activities, parental engagement and other activities.

Both primary and secondary school teachers are expected to spend up to one-third of their working time preparing and planning their work. Global experience suggests that this definition may be conducive to learning because it recognizes the need to devote some time to non-teaching tasks, such as lesson planning, analysis of students' work, and professional development. If teachers' non-teaching time is used productively, it can make teaching time much more effective and meaningful.

Singapore, like other successful education systems such as those of Ontario (Canada), Finland, Japan and South Korea devote considerable time at the school level to instructional improvement activities, including collaborative teacher analysis of instructional practice as well as mentoring and professional development (Darling-Hammond and Rothman, 2011; Darling-Hammond, 2010; Levin, 2008). In addition, these systems tend to devote a smaller share of teachers' time to actual contact with students than do other systems, and a larger share to teacher collaboration, on-site professional development and research on the effectiveness of teaching strategies. Japan, for example,

devotes about 40 per cent of teachers' working time to these types of activities, while Ontario currently devotes 30 per cent (Darling-Hammond and Rothman, 2011).

**Table 1. Teachers' official tasks related to instructional improvement**

	Singapore	Japan	Shanghai
Mentor peers	✓	✓	
Collaborate on school plan	✓	✓	✓
Design curriculum	✓	✓	
Participate in school evaluation	✓	✓	

Source: SABER-Teachers database

### Implementation

**Evidence suggests that Singapore teachers' workload has been relatively higher than their overseas counterparts, though the majority of teachers do report that they are satisfied with their jobs and more has been done over time to ease various teaching and administrative responsibilities.** It has been noted that Singapore teachers work an average of about 48 hours per week, of which they spend 17 hours teaching. This is less than the international average for teaching (19 hours), though more time is spent on activities such as marking, lesson planning, supervising extra-curricular activities and general administration. The Organisation for Economic Co-operation and Development (OECD) Teaching and Learning International Survey (TALIS) 2013 found that 88 per cent of teachers reported job satisfaction in Singapore. Since 2008, there has been the deployment of more Allied Educators (Teaching and Learning) (AED(TL)s) to assist teachers with pastoral care and support as well as managing co-curricular activities. For example, primary schools with an average enrolment of 1,600 pupils receive five AED(TL)s, while secondary schools with an average enrolment of 1,400 students receive seven AED(TL)s. Schools have two vice-principals to assist the principal (one in charge of administration

and one in charge of academic affairs). More administrative staff have also been hired by schools to ease administrative burdens.

## Goal 2: Attracting the best into teaching

### Established ●●●○

The structure and characteristics of a teaching career make it more or less attractive to talented individuals. They may be more inclined to become teachers if they see that entry requirements are on par with those of well-regarded professions in which compensation and working conditions are adequate, and attractive professional development opportunities exist.

SABER-Teachers considers four policy levers that school systems can use to reach Goal 2: (1) requirements for entering the teaching profession; (2) competitive pay; (3) appealing working conditions; and (4) attractive career opportunities.

### Policy

**(1) In Singapore, higher educational requirements for new teachers attract talented professionals.** The level of education required for teachers may indicate the attractiveness of the profession. While not the only way to communicate that it is an attractive profession, it does serve as an indicator: education systems in which teacher positions are competitive often have rigorous entry requirements. Systems where entry to the profession is most demanding require a research-oriented bachelor's or master's degree.

In Singapore, applicants to the NIE (which provides the necessary training and accreditation for teachers) tend to come from the top 30 per cent of the secondary school cohort, which shows that admission is highly selective.

The NIE offers a range of well-regarded accreditations, depending on the prior background and qualifications of admitted applicants, including the 4-year BABSc (Ed) programme, the 2-year Diploma-in-Education Programme, and the 1 to 2-year postgraduate Diploma-in-Education (primarily for applicants who already have a university degree).

**(2) Teachers' base salary could be more competitive in Singapore, but bonuses make the profession more attractive.** Teacher's compensation can play a pivotal role in making the teaching profession attractive, but the key is ensuring that salary and other benefits are competitive and well benchmarked against other options available to university graduates. In Singapore, teachers receive a monthly salary while undergoing NIE training, and their tuition fees are also covered. Teachers may also earn performance and retention bonuses. Performance bonuses can be up to 30 per cent of base salary, while retention bonuses range from S\$10,000 to S\$36,000 every three to five years. The modal annual salary for teachers aged 25 to 29 was \$43,563 in 2009, with the maximum salary set at S\$77,693.

**(3) While low pupil-teacher ratios may help attract people to the profession in Singapore, the physical infrastructure may deter them.** Working conditions can play an important role in the decision to become a teacher. Talented candidates who have opportunities in other professions may be discouraged from becoming teachers if working conditions are unpleasant, unreliable or unsafe. SABER-Teachers measures working conditions through pupil-teacher ratios to monitor overcrowding as well as compliance with infrastructure requirements.

As of 2013, in Singaporean primary schools, the pupil-teacher ratio was 16.8:1 whereas in secondary schools it was 14.7:1, both of which are rather low. There are no data monitoring the quality of the physical facilities used in Singapore.

**(4) Teacher promotion is meritocratic, and there are ample opportunities for development in Singapore.** Teachers in most education systems have the opportunity for promotion to the position of principal at some point in their careers. In addition to these 'vertical' promotions, most high-performing education systems also offer 'horizontal' promotions to academic positions that allow teachers to grow professionally yet remain closely connected to instruction, instead of moving to managerial positions (OECD, 2012; Darling-Hammond, 2010).

As indicated above, there are ample opportunities for career development across well-defined ladders. For example, those under the Teaching Track may be appointed Senior Teachers and Master Teachers, which

earn the equivalent of a School Head of Department. Specialists may progress along the Senior Specialist Track, while the Leadership Track provides for progress to Heads of Department, Vice-principal and Principal positions as well as positions in the MOE.

**Table 2. Opportunities for Career Advancement**

	Singapore	Japan	Shanghai	South Korea
Principal	✓	✓	✓	
Lead Teacher	✓		✓	✓

Source: SABER-Teachers database

### Implementation

**The education requirements for new teachers are consistently enforced.** In fact, admission has become even more competitive in recent years given that the MOE achieved its targeted pool of 30,000 teachers by 2010 and hence is now even more discriminating in selection policies.

## Goal 3: Preparing teachers with useful training and experience

### Established ●●●○

It is crucial to equip teachers with the skills they need to succeed in the classroom. Success requires subject matter and pedagogic knowledge as well as classroom management skills and a great deal of teaching practice. Good preparation puts all teachers on an equal footing, giving them a common framework for improving their instructional practice.

SABER-Teachers considers two policy levers that school systems can use to reach Goal 3: (1) minimum standards for pre-service training programmes; and (2) required levels of classroom experience for all teachers.

### Policy

**(1) Initial teacher education requirements are high, in keeping with those of the most successful education systems.** Virtually all high-performing countries require that teachers have the educational equivalent of

ISCED 5A (a research-oriented bachelor's degree). Certain systems, such as Finland, also require a research-based master's degree (OECD, 2011). As mentioned, in Singapore trainee teachers may undergo the 4-year BABSc(Ed) programme, the two-year Diploma-in-Education Programme, or the one to two-year post-graduate Diploma-in-Education (primarily for applicants who already have a university degree). In terms of the recommended amount of time spent on the training curriculum, this may depend on the type of programme. One example would be primary education where trainee teachers spend approximately 240 hours on pedagogical theory, 480 hours on teaching methods, and 96 hours on language, mathematics and/or sciences.

**(2) New teachers are required to possess a meaningful amount of practical classroom experience before entering the profession.** Practical experience is a critical factor in the preparedness of teachers entering the profession. The more teachers are able to try out their pedagogical theories, subject-matter knowledge, and classroom management skills, the better prepared they are for their careers. Most high-performing systems require teacher entrants to have considerable classroom experience before becoming independent teachers; some of these systems also provide mentoring and support during teachers' first and even second year on the job (Darling-Hammond, 2010; Ingersoll, 2007). High-quality practical experience programmes should integrate learning, practice, and guided reflection into the programme structure.

In Singapore, the NIE places great emphasis on providing practical training. Trainee teachers undergoing the four-year undergraduate programme are given about 20 weeks in total of practicum throughout their years of studies, to be undertaken at regular intervals. For the one-year graduate programme, a ten-week practicum is undertaken. Trainee teachers are expected to keep a reflective portfolio to document their journey as an education professional, from initial teacher preparation to continuing into the more advanced stages of their careers, thus providing a platform for discussion with their supervisors from NIE and coordinating mentors from the schools in which they undertake practicum training.

**Table 3. Required classroom experience, secondary school teachers**

	Singapore	Japan	Shanghai	South Korea
3 months or less				✓
12 months or less			✓	
12-24 months	✓			
More than 24 months		✓		

Source: SABER-Teachers database

### Implementation

#### Theory and practice have begun to be more integrated.

The NIE has increasingly focused on integrating theory and practice for trainee teachers so as to ensure that the time spent on imparting pedagogical theory actually bears fruit in the classroom. In Singapore, apart from the necessary time spent on practicum training and building e-portfolios, teachers are highly encouraged to engage in reflective practice and focused conversations with mentors and colleagues. For example, the Reflective Practice Model adopted in NIE programmes is part of coursework and is implemented after lessons to encourage trainee teachers to identify areas of progress.

### Goal 4: Matching teachers' skills with students' needs

#### Established ●●●○

Ensuring that teachers work in schools where their skills are most needed is important for the equity and efficiency of an education system. First, it is a way of distributing teachers as efficiently as possible, making sure that there are no shortages of qualified teachers in any given grade, education level or subject. Second, it is a means of ensuring that all students in a school system have an equal opportunity to learn. Without purposeful allocation, it is likely that teachers will gravitate towards schools serving better-off students or those located in more desirable areas, deepening inequalities in the education system.



SABER-Teachers considers two policy levers that school systems can use to reach Goal 4: (1) incentives for teachers to work in hard-to-staff schools; and (2) incentives for teachers to teach subjects in which there is a critical shortage of instructors.

### Policy

**(1) Mechanisms exist to address teacher shortages in hard-to-staff schools.** Attracting effective teachers to schools that are in disadvantaged areas or serve underprivileged populations is a challenge for many countries and often requires a specific set of incentives. In Singapore, this is not a major challenge given its economic geography. Nonetheless, it is quite clear that schools may lack professional expertise in particular areas of need pertaining to a child's overall well-being. To this end, the MOE initiated a scheme for Allied Educators (Teaching and Learning) (AED(TL)s) in 2008. Allied Educators include those specializing in counselling, learning and behavioural support, and Teaching and Learning. They work closely with school teachers to ensure an environment of holistic development. In turn, they are provided with competitive remuneration that is benchmarked to market salaries, and they benefit from the school holiday scheme along with other teaching professionals. The AED(TL)s were initially deployed to 87 secondary schools to co-teach the normal curriculum, and have since expanded to many more schools where they provide additional human resources, particularly for pastoral care and the management of co-curricular activities. However, incentives do not exist for typical public-school teachers to teach in hard-to-staff schools.

**(2) There are very few incentives for teachers to teach subjects for which there is a critical shortage of instructors.** Most education systems have at least some subjects for which there is a critical shortage of teachers, that is, too few teachers to meet students' needs. Successful systems develop policies and incentives that encourage teachers to teach these subjects. Monetary bonuses, scholarships and career opportunities are all examples of such incentives. Even though critical shortage subjects are clearly identified in Singapore, including English, literature, and the humanities, teachers are provided with very few incentives to teach these subjects. Although monetary bonuses are offered, higher basic salaries, housing support and subsidized education are not provided.

**Table 4. Incentives for teachers to teach in hard-to-staff schools**

	Singapore	Japan	Shanghai	South Korea
Promotion opportunities			✓	✓
Higher basic salary		✓		
Monetary bonus	✓	✓	✓	
Subsidized education			✓	
Housing support		✓		✓

Source: SABER-Teachers database

### Implementation

**The Allied Educator scheme has proven to be fairly successful.** Since the introduction of the scheme, Allied Educators have proven to be – in many cases – indispensable co-professionals in nurturing and developing skills among school children. With their unique focus on holistic development, these professionals enable innovative pedagogies to be implemented, while ensuring that students make the most of and benefit from the classroom experience, not just in terms of knowledge but also improved self-confidence and esteem.

## Goal 5: Leading teachers with strong principals

### Established ●●●○

The quality of school heads is an important predictor of student learning. Capable principals act as instructional leaders, providing direction and support to teachers in order to improve instructional practice at the school level. In addition, capable principals can help attract and retain competent teachers.

SABER-Teachers considers two policy levers that school systems can use to reach Goal 5: (1) investment by the education system in developing qualified school leaders; and (2) the decision-making authority given to school principals to support and improve instructional practice.

## Policy

**(1) Singapore has developed a specialized programme for training premier school leaders.** Research from high-performing education systems suggests that principals can develop leadership skills through supported work experience or specific training courses. For example, the systems of Japan, South Korea, Shanghai (China) and Singapore all require that applicants for principal positions participate in specific coursework and/or a specialized internship or mentoring programme designed to develop essential leadership skills (OECD, 2012; Darling-Hammond, 2010).

In Singapore, potential school leaders undergo the Leaders in Education Programme (LEP) launched in 2001 and run by the NIE. This is a six-month programme that is mandatory for all principals prior to their deployment in schools. The LEP includes modules on leadership, vision and organizational thinking, interactions with senior and distinguished education professionals and ministry officials, as well as an international visit to other educational institutions for cross-cultural exchange, and an industrial visit to meet with senior executives and management of global companies. These experiences are intended to give future principals new perspectives on developing their own model of school leadership.

**(2) School leaders in Singapore are expected to undertake instructional leadership.** Once education systems have qualified principals, they need to focus on improving classroom instruction (Barber and Mourshed, 2007). High-performing education systems such as in Finland and Ontario (Canada), consider their principals to be instructional leaders: they are expected to be knowledgeable in teaching and curriculum matters as well as provide guidance and support to teachers. Principals in these systems evaluate teachers, provide feedback, assess their school's needs for professional development, and direct instructional resources where they are most needed (Darling-Hammond and Rothman, 2011).

Similarly, in Singapore, school principals are expected to encourage and coach teachers to use research-based pedagogies to improve teaching and learning. At the national level, the MOE re-calibrated its School Excellence Model (SEM) and Master plan of Awards (MoA) in 2011 to give school leaders more autonomy to

provide student-centric programmes, and to introduce innovative teaching methods. These two programmes use a combination of benchmarking and competition among schools to promote excellence.

**Table 5. Mechanisms that support the development of Principals' leadership skills**

	Singapore	Japan	Shanghai	South Korea
Specific coursework	✓		✓	✓
Internship or Mentoring programme	✓	✓		

Source: SABER-Teachers database

## Implementation

**School leadership training has been successful and current initiatives provide the platform for continued development.** The LEP has been running for well over a decade and has proven to be very successful. In addition to a whole catalogue of courses that have been developed over time (including 'Educational Leadership through Complexity Lenses', 'Design Thinking: Innovation and Values', 'Values and Ethics for School Leaders'), the LEP has included a mentoring component with an experienced principal (a Creative Action Project) to envision value-adding changes to a particular school, as well as Management Dialogue Sessions with the Permanent Secretary, the Director General and the Deputy Director General of Education. The effectiveness of the LEP has been analysed by Ng (2008), which placed emphasis on knowledge construction, sharing and application.

## Goal 6: Monitoring teaching and learning

### Established ●●●○

It is essential to assess how well teachers are teaching and whether students are learning in order to devise strategies to improve both processes. First, education systems must identify poorly performing teachers and students before they can provide struggling classrooms

with the adequate support they need. Second, teacher and student evaluations help identify good practices, which can be shared across the system to improve school performance.

SABER-Teachers considers three policy levers that school systems can use to reach Goal 6: (1) availability of data on student achievement; (2) adequate systems for monitoring teacher performance; and (3) multiple mechanisms for evaluating teacher performance.

### Policy

**(1) In Singapore, student progress is documented and tracked to facilitate feedback and learning over time.** All high-performing education systems monitor students' performance to inform teaching and teacher policies, but they do so in very different ways. They may conduct large-scale system-wide assessments, student evaluations (by teachers), or employ other standardized student learning methods. Regardless of the mechanisms they use, high-performing systems ensure that three main functions are fulfilled:

1. The education system collects complete and relevant student achievement data on a regular basis.
2. Public authorities have access to these data and use them to inform policy-making.
3. A feedback mechanism shares these data and relevant analyses at the school level, which is then used by teachers to improve their instructional practice.

In Singapore, a range of continual assessment formats for students is available in schools depending on their practice. Coursework and examinations are documented in students' files to ensure that teachers and parents have clear indicators of students' performance over time. Parents are provided interim reports of their children's performance at relevant intervals throughout the academic year. Additionally, Singapore has participated in various international student learning assessments, including the TIMSS, the PIRLS and the PISA. However, findings on students' performance are not used to provide guidance to underperforming teachers and schools.

**(2) Singapore has a well-designed and integrated system for evaluating teacher performance.** Most high-performing systems conduct teacher evaluations using a

multiplicity of mechanisms for data collection, as well as varied criteria for assessment. Ideally, an evaluation system includes a comprehensive teacher evaluation framework that combines student results, teacher portfolios, classroom observations and feedback from students/parents. International experience and research on the topic suggest that none of these approaches taken separately can produce a balanced and objective evaluation of teacher performance. These evaluations can help identify areas of improvement for teachers.

In Singapore, a performance evaluation is facilitated through the Enhanced Performance Management System (EPMS). First launched in 2003, the EPMS is based on a developmental model that focuses on formative rather than purely summative evaluation. Teachers begin the year with self-assessment and their goals for teaching, instructional innovation and professional development, which are discussed with reporting officers. Formal evaluations take place across the year and include a mid-year review and final evaluation, complemented by various informal evaluation meetings throughout the year.

**(3) Several criteria are used to evaluate teachers' performance.** Research suggests that no single method of evaluating teachers' performance is fail-safe. Most high-performing systems conduct teacher evaluations using several data collection mechanisms and varied assessment criteria (Table 6).

In Singapore, annual evaluations make use of many different sources of information to ensure that the evaluation is as objective and accurate as possible. These include: peer observation, self-evaluation based on performance objectives, interviews, portfolio maintenance, student/parental feedback, and (to some extent) evidence of student learning and performance. It should be stressed that none of the above are taken as decisive criteria and that student test scores are well-known to be inaccurate in gauging overall teacher efficacy in contrast with a standards-based evaluation of teachers, given that the value-added models tend to be highly unstable and fluctuate from class to class and from year to year.

**Table 6. Criteria for evaluating teacher performance**

	Singapore	Japan	Shanghai	South Korea
Subject matter knowledge	✓	✓		✓
Teaching methods	✓	✓	✓	✓
Student assessment methods	✓	✓	✓	✓
Students' academic achievement			✓	

Source: SABER-Teachers database

### Implementation

**Singapore's performance management and evaluation model ensures that teachers are fairly assessed and incentivized to achieve greater improvements in teaching and learning over time.** The evaluations conducted annually by schools and driven by the principals, vice-principals and heads of department are critical for the MOE's decisions on promotion, salary increments and various bonuses. The EPMS, while requiring consistent updating by the relevant stakeholders, ensures that all necessary information for making important promotion and remuneration decisions is available. The EPMS is potentially a model that other countries might wish to adopt.

### Goal 7: Supporting teachers to improve instruction

#### Established ●●●○

Support systems help improve instruction at the school level. In order to continually improve their practices, teachers and schools need to be able to analyse the specific challenges they face in classroom teaching, access information on best practices for addressing these challenges, and receive specific external support tailored to their needs.

SABER-Teachers considers three policy levers that school systems can use to reach Goal 7: (1) opportunities for

teachers' professional development; (2) collaborative professional development that focuses on improving instruction; and (3) assignment of professional development training on the basis of perceived need.

### Policy

**(1) Professional development is strongly encouraged and facilitated in Singapore.** In Singapore, professional development is recognized as crucial to maintaining an effective teaching workforce. These include a range of activities over the lifespan of a teaching professional's career: induction, observation and mentoring, collaborative learning, workshops and courses, and action research.

A number of initiatives in recent years have laid emphasis on professional development, including: the 2011 'TEACH' framework, strengthening the professional culture of the teaching fraternity; the 2011 establishment of the Academy of Singapore Teachers, with dedicated Subject Chapters and Professional Learning Communities; and the 2012 'Teacher Growth Model', focusing on continual learning.

**(2) Collaborative professional development is emphasized in Singapore.** Research suggests that effective teachers' professional development is collaborative and provides opportunities for in-school analysis of instructional practice. As mentioned earlier, high-performing education systems such as those in Japan and the city of Ontario(Canada) devote as much as 30 per cent of teachers' school time to professional development and instructional improvement activities. These activities include observation visits to other schools, participation in teacher or school networks, engaging in research, and mentoring and/or coaching.

In Singapore, collaborative learning is an important element of professional development. As alluded to above, Singapore first established a Teachers' Network in 1998, which has since evolved to become the Academy of Singapore Teachers. The aim of this initiative is to collectively upgrade the professional expertise of teachers by way of a ground-up initiative where best practices and innovative pedagogies are exchanged and developed.

**(3) Teachers' professional development responds to perceived needs.** Providing the same professional

development to all teachers is an inefficient way to improve instructional practice. By assigning professional development based on performance evaluations, teachers receive the specific guidance they need to improve. In Singapore, various types of professional development methodologies are made available to suit teachers with diverse learning needs. This is actively recognized under the Teacher Growth Model, which encourages teachers to pursue their own personal development through a self-developed balance of training, mentoring, research-based practice, and networked and experiential learning.

**Table 7. Types of teacher professional development**

	Singapore	Japan	Shanghai
Observation visits	✓	✓	✓
Teacher networks	✓	✓	✓
School networks	✓	✓	✓
Research	✓	✓	
Mentoring/ coaching	✓	✓	✓

Source: SABER-Teachers database

## Implementation

**Professional development continues to be highly encouraged and increasingly facilitated in Singapore.** As with many other countries, Singaporean teachers experience barriers to successful participation including conflict with work schedules and the perceived irrelevance of programmes offered. The policies mentioned before have been taken to ensure that professional development is seen as useful for improving practice and teachers' performance, and school leaders are now more actively encouraging teachers to participate in such programmes as well.

## Goal 8: Motivating teachers to perform

### Established ●●●○

Mechanisms that adequately motivate teachers enable school systems to show their seriousness in achieving

education goals, thus making a teaching career attractive to competent individuals and rewarding good performance while ensuring accountability.

SABER-Teachers considers three policy levers that school systems can use to reach Goal 8: (1) linking career opportunities to teacher performance; (2) mechanisms that hold teachers accountable; and (3) performance-based compensation.

## Policy

**(1) Promotion opportunities and hiring decisions are officially linked to teachers' performance outcomes, and based on merit.** To ensure that teachers are capable before granting them long-term contracts, authorities need both a probation period upon initial hires and the right not to offer long-term contracts to teachers who underperform during the probation period. In Singapore, teachers have a mandatory probation period of between six months to a year before they can acquire open-ended appointments. In deciding whether or not to grant such an appointment, the main factors taken into consideration are the applicant's educational qualifications and performance on the job.

**(2) Minimal expectations of teacher behaviour are in place.** Requiring teachers to meet certain standards in order to remain in the profession can facilitate the removal of ineffective and/or dangerous teachers. SABER-Teachers measures whether teachers may be dismissed for misconduct, child abuse, absenteeism and poor performance. As with many other high-performing systems, teachers in Singapore may be dismissed for misconduct or if their performance consistently falls below the core standards required of teaching professionals. In addition, teacher performance evaluations are required for both primary and secondary school teachers in order for them to remain in the profession. On the contrary, professional development activities are not required.

**(3) Teacher compensation is actively linked to teacher performance at the school level.** To align teacher incentives, systems that are most effective at motivating teachers provide incentives to perform well (e.g. performance bonuses). As mentioned, in Singapore a performance bonus of up to 30 per cent of total remuneration is available for top performers. Those who remain in the teaching force over a number of years are

also eligible for retention bonuses every three to five years, which ensures a fairly low attrition rate for the teaching force in Singapore.

**Table 8. Mechanisms to hold teachers accountable**

	Singapore	Japan	Shanghai
Professional development			✓
Performance evaluations	✓		✓

Source: SABER-Teachers database

### Implementation

**Singapore teachers are actively motivated to perform well in their roles.** Apart from monetary incentives, Singaporean education policy-makers have long recognized that teachers must be given due professional respect and status in order for teaching to become a much 'sought-after' profession. The NIE has consistently articulated a broader vision for the role of teachers as custodians of values, and facilitators of learning and community builders in Singaporean society. National recognition has also been bestowed on teachers for their accomplishments in the teaching profession, including the President's Award for Teachers and the Caring Teacher Award. These initiatives appeal to the intrinsic motivations of teaching professionals and are an essential element in the package of incentives to motivate high-performing teachers.

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## Annex 1: SABER-Teachers Ratings

The SABER-Teachers team has identified policy levers (actions that governments can take) and indicators (that measure the extent to which governments are making effective use of these policy levers) for each of the eight policy goals referenced in this country report. For example, for Teacher Policy Goal 1, Setting Clear Expectations for Teachers, the SABER-Teachers team has identified the following policy levers and indicators:

**Table A1.1 Setting Clear Expectations for Teachers**

Policy Levers	Indicators
A. Are there clear expectations for teachers?	1. Are there standards for what students must know and be able to do?
	2. Are the tasks that teachers are expected to carry out officially stipulated?
B. Is there useful guidance on the use of teachers' working time?	1. Are teachers' official tasks related to instructional improvement?
	2. Does the statutory definition of working time for primary school teachers recognize non-teaching hours?
	3. What is the share of working time allocated to teaching for primary school teachers?

Each goal is defined in the first paragraph of the section relating to that goal in the country report. Policy levers for achieving that goal are identified in the second paragraph. The remaining text in each section provides details about the indicators that measure each of the levers.

Using the policy levers and indicators, the SABER-Teachers tool evaluates the performance of an education system on each of the eight teacher policy goals using a four-tiered scale (latent, emerging, established and advanced) that describes the extent to which the system has established teacher policies associated with improved student outcomes.

This four-tiered rating system represents a continuum of education systems, from education systems with no teacher policies at all (or, in some cases, policies that are detrimental to the encouragement of learning) to more comprehensive, developed systems with teacher policies oriented toward learning. SABER-Teacher ratings can be defined in the following manner:

- **Advanced**—Systems that are rated “advanced” on a particular policy goal have established multiple policies conducive to learning for each policy lever used to achieve that goal.
- **Established**—“Established” systems have at least one policy and/or law in place that uses those policy levers.
- **Emerging**—“Emerging” systems have only some appropriate policies in place to achieve the policy goal.
- **Latent**—“Latent” systems have no or few teacher policies.

See Vegas et al. (2012) for more details about these definitions and a detailed review of the policy levers and indicators used by SABER-Teachers.

The **Systems Approach for Better Education Results (SABER)** initiative produces comparative data and knowledge on education policies and institutions, with the aim of helping countries systematically strengthen their education systems. SABER evaluates the quality of education policies against evidence-based global standards, using new diagnostic tools and detailed policy data. The SABER country reports give all stakeholders in educational results – from administrators, teachers and parents to policy-makers and business people – an accessible, objective snapshot showing how well the policies of their country's education system are geared toward ensuring that all children and youth learn.

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