

SABER



System Assessment
and Benchmarking
for Education Results

SABER-Teachers Background Paper No. 4

How Can We Classify Education Systems According to Their Performance on Core Teacher Policy Goals?

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I. Introduction

There is increasing interest in policies that can improve teacher effectiveness.

Over the past decade, both developed and developing countries have become growingly concerned with how to raise the effectiveness of their teachers. This interest seems to have been sparked by a series of factors:¹

- ⑩ Student achievement has been found to correlate with economic and social progress. A few influential studies have found that countries with higher student achievement in international exams have higher rates of economic growth and that those individuals who perform better earn higher wages.² Others have found that countries with better educated students have more consolidated democracies.³ This has convinced many of the potential importance of paying attention to students' learning outcomes.

¹ This section draws on Bruns & Santibañez (2011). "Making Teachers Accountable." In B. Bruns, D. Filmer & H. A. Patrinos (Eds.) Making Schools Work: New Evidence on Accountability Reforms. Washington, DC: The World Bank.

² See, for example: Hanushek & Woessmann (2007). "Education Quality and Economic Growth." Washington, DC: The World Bank. Hanushek & Woessmann (2009). "Schooling, Cognitive Skills, and the Latin American Growth Puzzle." NBER Working Paper 15066. Cambridge, MA: National Bureau of Economic Research (NBER). Pritchett, L. & Viarengo, M. (2009). "Producing Superstars for the Economic Mundial: The Mexican Predicament with Quality of Education. PEPG Working Paper 09-01. Cambridge, MA: Program on Education Policy and Governance (PEPG).

³ See Barro, R. J. (1999). "Determinants of Democracy." The Journal of Political Economy. 107(S6): S158-S183. Campante, F. & Glaeser, E. L. (2009). "Yet Another Tale of Two Cities: Buenos Aires and

- ⑩ International assessments have identified countries that need to raise student learning. A considerable number of countries at various income levels have begun to participate in international student achievement tests. This has allowed them to compare the achievement of their students with that of their peers in other countries, and in many cases, to realize that their students were underperforming by world standards.

- ⑩ Recent studies have shown teacher effectiveness is a key predictor of student learning. A number of studies that teacher effectiveness is the most important school-based predictor of student learning and that several consecutive years of outstanding teaching can offset the learning deficits of disadvantaged students.⁴ This has made many realize of the potential of teacher policies to improve student learning.

Yet, evidence on the policies that raise teaching quality is incomplete and mixed.

Despite the growing demand for guidance on policies that raise teacher effectiveness, evidence from impact evaluation studies in this area is still uneven:⁵

Chicago." NBER Working Paper 15104. Cambridge, MA: National Bureau of Economic Research (NBER). Glaeser, E. L., Ponzetto, G. A. M. & Shleifer, A. (2007). "Why Does Democracy Need Education?" *Journal of Economic Growth*. 12: 77-99.

⁴ Hanushek, E. A., & S. G. Rivkin. (2010). "Generalizations about Using Value-Added Measures of Teacher Quality." *American Economic Review*. 100 (2): 267–71. Hanushek, E. A., J. F. Kain, D. M. O'Brien, and S. G. Rivkin. 2005. "The Market for Teacher Quality." NBER Working Paper 11154. Cambridge, MA: National Bureau of Economic Research Working Paper (NBER). Rockoff, J. E. (2004). "The Impact of Individual Teachers on Student Achievement: Evidence from Panel Data." *American Economic Review*, 94(2), 247-252. Sanders, W. L., & Rivers, J. C. (1996). "Cumulative and Residual Effects of Teachers on Future Student Academic Achievement." Research Progress Report. Knoxville, TN: University of Tennessee Value-Added Research and Assessment Center.

⁵ This section draws on Bruns & Santibañez (2011). "Making Teachers Accountable." In B. Bruns, D. Filmer & H. A. Patrinos (Eds.) *Making Schools Work: New Evidence on Accountability Reforms*. Washington, DC: The World Bank. Umansky, I. (2005). "A Literature Review of Teacher Quality and

- ⑩ There is not enough evidence on many policies. For example, while many studies have sought to identify the ideal requirements to enter the teaching profession, research has found that the observable characteristics of teaching candidates (e.g., classroom experience, educational attainment or certification status) account for a very small share of variations in their effectiveness on the job.⁶ This is concerning because the more demanding a set of requirements is, the smaller and less diverse a teacher talent pool will be⁷ and teachers' race and gender seems to matter for student learning.⁸

- ⑩ The impact of many reforms depends on specific features of their design. For example, while many rigorous evaluations of merit pay programs in low- and middle-income countries have found that they can produce positive and statistically significant gains in student achievement,⁹ others have cautioned that

Incentives." In Vegas, E. (Ed.) *Incentives to Improve Teaching. Lessons from Latin America.* Washington, DC: The World Bank.

⁶ Goldhaber, D. (2002). "The Mystery of Good Teaching: Surveying the Evidence on Student Achievement and Teachers' Characteristics." *Education Next*, 2(1), 50-55. Kane, T. J., Rockoff, J. E., & Staiger, D. O. (2006). "What Does Certification Tell Us About Teacher Effectiveness? Evidence from New York City." NBER Working Paper 12155. Cambridge, MA: National Bureau of Economic Research (NBER). Rivkin, S. G., Hanushek, E. A., & Kain, J. F. (2005). "Teachers, Schools and Student Achievement." *Econometrica*, 73(2), 417-458.

⁷ Hanushek, E. A., & Pace, R. R. (1994). "Understanding Entry into the Teaching Profession." In R. G. Ehrenberg (Ed.), *Choices and Consequences: Contemporary Policy Issues in Education.* Ithaca, NY: ILR Press. Hanushek, E. A., & Pace, R. R. (1995). "Who Chooses to Teach (and Why)?" *Economics of Education Review*, 14(2), 101-117.

⁸ Dee, T. S. (2001). "Teachers, Race and Student Achievement in a Randomized Experiment." NBER Working Paper 8432. Cambridge, MA: National Bureau of Economic Research (NBER). Dee, T. S. (2005). "Teachers and the Gender Gaps in Student Achievement." NBER Working Paper 11660. Cambridge, MA: National Bureau of Economic Research (NBER).

⁹ Duflo, E., R. Hanna, and S. Ryan. (2010). "Incentives Work: Getting Teachers to Come to School." Unpublished manuscript, Abdul Latif Jameel Poverty Action Lab (JPAL), Massachusetts Institute of Technology, Cambridge, MA. Glewwe, P., N. Ilias, and M. Kremer. 2010. "Teacher Incentives." *American*

the method used to evaluate teacher performance, the level at which incentives are awarded (i.e., individual or group), the size of the incentives and how well they are tied to the behaviors they seek to elicit influence the impact of these merit pay programs.¹⁰

- ⑩ The same policies can have very different impacts in different contexts. For example, while alternative pathways into teaching such as Teach for America have been found to have limited impact on student achievement in the United States,¹¹ the question of whether they may, given a certain scale and time period,

Economic Journal: Applied Economics 2 (3): 205–27. Lavy, V. (2002). "Evaluating the Effect of Teachers' Group Performance Incentives on Pupil Achievement." *The Journal of Political Economy* 110 (6): 1286–317. Lavy, V. (2009). "Performance Pay and Teachers' Effort, Productivity, and Grading Ethics." *The American Economic Review* 99 (5): 1979–2011. Muralidharan, K., and V. Sundararaman. (2009). "Teacher Performance Pay: Experimental Evidence from India." National Bureau of Economic Research Working Paper 15323, NBER, Cambridge, MA. Rau, T., and D. Contreras. (2009). "Tournaments, Gift Exchanges, and the Effect of Monetary Incentives for Teachers: The Case of Chile." Department of Economics Working Paper 305, University of Chile, Santiago.

¹⁰ Ahn, T., & Vigdor, J. (2010). "The Impact of Incentives on Effort: Teacher Bonuses in North Carolina." PEPG Working Papers Series. Cambridge, MA: Program on Education Policy and Governance (PEPG). Bacolod, M. P., DiNardo, J., & Jacobson, M. (2009). "Beyond Incentives: Do Schools Use Accountability Rewards Productively?," NBER Working Paper 14775. Cambridge, MA: National Bureau of Economic Research (NBER). Ballou, D. (2001). "Pay for Performance in Public and Private Schools." *Economics of Education Review*, 20(1), 51-61. Eberts, R. W. (2002). "Teacher Performance Incentives and Student Outcomes." *Journal of Teacher Education*, 37(4), 913-927. Murnane, R. J., & Cohen, D. K. (1986). "Merit Pay and the Evaluation Problem: Why Most Merit Pay Plans Fail and Few Survive." *Harvard Educational Review*, 56(1), 379-388. Podgursky, M., & Springer, M. G. (2008). "Teacher Performance Pay: A Review." *Journal of Policy Analysis and Management*, 24(4), 909-949.

¹¹ Boyd, D., Grossman, P., Lankford, H., Loeb, S., & Wyckoff, J. (2006). "How Changes in Entry Requirements Alter the Teacher Workforce and Affect Student Achievement." *Education Finance and Policy*, 1(2), 176-216. Boyd, D., Hammerness, K., Lankford, H., Loeb, S., Ronfeldt, M., & Wyckoff, J. (2009). "Recruiting Effective Math Teachers, How Do Math Immersion Teachers Compare?: Evidence from New York City." New York, NY: National Center for the Analysis of Longitudinal Data in Education Research (CALDER). Darling-Hammond, L., Holtzman, D., Gatlin, S. J., & Vazquez Hellig, J. (2005). "Does Teacher Preparation Matter? Evidence About Teacher Certification, Teach for America

lead to improvements in student learning remains to be answered. In addition, a recent study of a similar initiative in Latin America suggests that alternative pathways into teaching could have a considerable impact in raising student learning in some countries.¹²

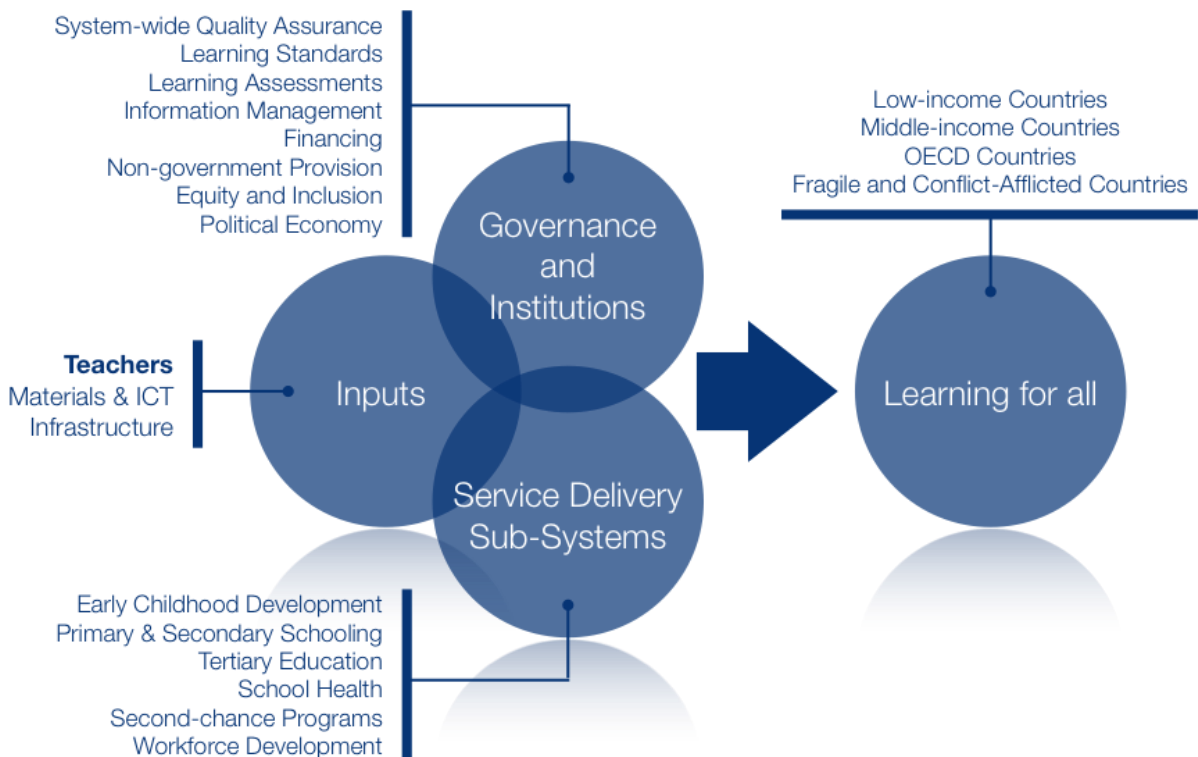
The Human Development Network’s Education Sector at the World Bank has launched an initiative called SABER to fill the gap in data on education policies.

This effort, called System Assessment and Benchmarking for Education Results (SABER), seeks to collect, analyze and disseminate data on education policies in developed and developing countries. SABER includes the main education policy domains at all levels of education services, from finance to learning assessments, learning standards to early childhood development (**Figure I.1**). SABER-Teachers focuses on developing tools to collect, analyze, and disseminate information on teacher policies around the world.

Figure I.1: SABER Overview

and Teacher Effectiveness." *Education Policy Analysis Archives*, 13(42). Decker, P. T., Mayer, D. P., & Glazerman, S. (2004). *The Effects of Teach For America on Students: Findings from a National Evaluation*. Princeton, NJ: Mathematica Policy Research, Inc. Xu, Z., Hannaway, J., & Taylor, C. (2007). "Making a Difference? The Effects of Teach for America in High School." *National Center for Analysis of Longitudinal Data in Education Research (CALDER)*, Urban Institute.

¹² Alfonso, M., Santiago, A., & Bassi, M. (2010). "An Alternative Pathway into Teaching: Placing Top University Graduates in Vulnerable Schools in Chile." Washington, DC: Inter-American Development Bank.



Source: Authors' elaboration.

SABER-Teachers collects data on ten comprehensive teacher policy areas.

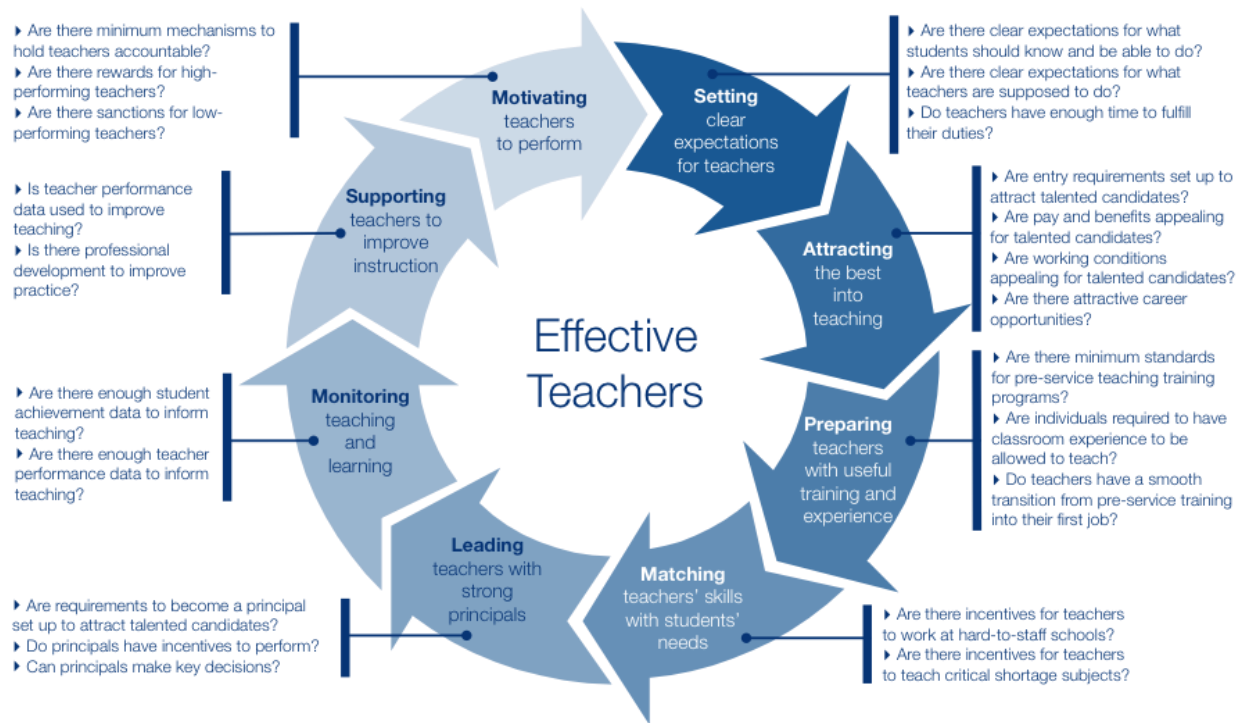
These areas include: (i) requirements to enter and remain in teaching; (ii) initial teacher preparation; (iii) recruitment and employment; (iv) teacher workloads and autonomy; (v) professional development; (vi) compensation: salary and non-salary benefits; (vii) retirement rules and benefits; (viii) monitoring and evaluation of teacher quality; (ix) teacher representation and voice; and (x) school leadership. Data are collected by expert consultants who interview key informants, compile legal documents and quantitative information and complete a set of standard questionnaires.¹³

¹³ For more information on the selection of these teacher policy areas, see Vegas, E., Loeb, S., Romaguera, P., Paglayan, A. S., Goldstein, N. & Ganimian, A. J. (2011). "SABER-Teachers. Objectives, Rationale, Methodological Approach and Products." Washington, DC: The World Bank.

SABER-Teachers classifies education systems according to eight policy goals.

These goals were identified through a review of the evidence and expert opinion. They are linked to teaching and learning through theory or evidence, they are a priority for resource allocation and they are actionable by governments. These goals include: (i) setting clear expectations for teachers; (ii) attracting the best into teaching; (iii) preparing teachers with useful training and experience; (iv) matching teachers’ skills with students’ needs; (v) leading teachers with strong principals; (vi) monitoring teaching and learning; (vii) supporting teachers to improve instruction; and (viii) motivating teachers to perform. Each goal is linked to policy levers—actions that governments can take to improve (**Figure I.2**). Levers are in turn linked to indicators, which are listed in **Table A.1** in the Annex.¹⁴

Figure I.2: SABER-Teachers Policy Goals and Levers



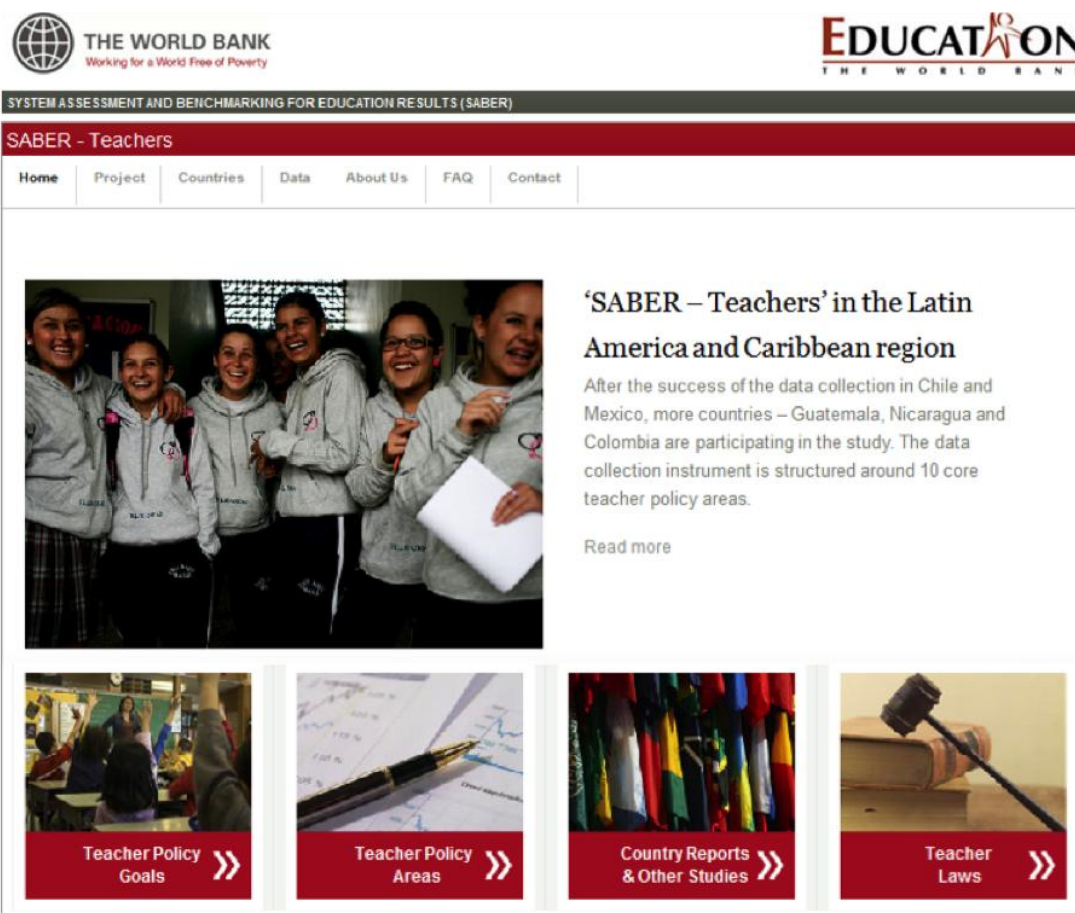
¹⁴ For more information on the selection of these teacher policy goals, see Vegas, E. & Ganimian, A. J. (2011). "What Are Teacher Policy Goals, How Can Education Systems Reach Them and How Will We Know When They Do?" Washington, DC: The World Bank.

Source: Authors' elaboration.

SABER-Teachers disseminates its data and analysis through user-friendly tools.

The main tool has been a 10-page country report, which classifies an education system according to its performance on each of the eight teacher policy goals and draws on the data collected on that system to discuss the reasons behind its good or bad performance. Each report also include an overview of the key challenges of the education system, the student and teacher population, the level of (de)centralization of the education system and the profile and role of teacher organizations. The other main tool, soon to be released, will be a global database of all the data collected by SABER-Teachers that will allow education systems to compare its policies with those of others. In addition, the website will feature all the country reports, comparative analyses and teacher policy regulations **(Figure I.3)**.

Figure I.3: SABER-Teachers Website



Source: Authors' elaboration.

II. Why Is There a Need to Classify the Teacher Policies of Education Systems?

Documenting global teacher policies can help education systems learn what others do, but it is not enough to offer them policy guidance on how to improve. SABER-Teachers will be useful to education systems in need of improvement in part because of the data that it makes available on the teacher policies of developed and developing countries. Whenever a system's leaders want to know, for example, how others pay their teachers, they will be able to use the SABER-Teachers database to do so. Yet, simply by reviewing the policies of other systems, a leader will not know whether a given policy is important to raise teacher

quality or whether a system performs well because of a given policy or in spite of it. This is why, in addition to making data available, SABER-Teachers has also developed a way to diagnose the teacher policies of a system.

The main objective of classifying the teacher policies of an education system is to identify its strengths and weaknesses and pinpoint priorities for

improvement. Unlike many previous efforts that rank, grade or classify education systems according to their teacher policies, SABER-Teachers is less interested in singling out poor performers and more interested in helping all systems improve. This is why it classifies each system based on its performance on each of the eight teacher policy goals outlined in Figure I.2, instead of classifying a system's teacher policies as a whole, which has "shock value" but offers little in the way of helpful guidance. This is also why SABER-Teachers does not use numerical scores to classify a system's performance on each teacher policy goal, but rather categories (called "levels of development") that indicate the extent to which a system has succeeded in achieving each goal (more on this below). In fact, the SABER-Teachers team is also working closely with the World Bank's operations team to explore how its tools can be used to help client countries identify priorities to raise teacher effectiveness.

III. How Does SABER-Teachers Classify the Teacher Policies of an Education System?

Each SABER-Teachers policy goal has policy levers, which are actions that governments can take to reach these goals, and each policy lever has indicators, which measure the extent to which governments are using these policy levers.

The SABER-Teachers policy goals, and the corresponding levers, are in Figure I.2 above. As stated above, SABER-Teachers selected the policy goals and levers after conducting a comprehensive review of the impact evaluation evidence on teacher policies. It selected the goals and levers that: (i) have strong potential to influence teaching and learning, either through evidence or theory; (ii) are a priority for resource-allocation; and (iii) are actionable by governments. Then, SABER-Teachers

reviewed the teacher policies of top-performing and rapidly-improving education systems to identify the indicators that would measure whether a system is using the policy levers at its disposal to achieve each policy goal. **Table A.1** in the Appendix includes a full list of all the policy goals, levers and indicators.

For each indicator, SABER-Teachers first established different levels of system performance based on the teacher policies of successful education systems.

SABER-Teachers used the review of top-performing and rapidly-improving systems not only to identify the indicators to measure each policy lever, but also to set the criteria for what would constitute adequate performance on each indicator. Based on the teacher policies of successful systems, SABER-Teachers established four “levels of development” for each indicator: “Latent” (poor performance), “Emerging” (insufficient performance), “Established” (adequate performance) and “Advanced” (outstanding performance). In order to calculate a system’s performance on each indicator, SABER-Teachers assigned a GPA-style numerical score to each level of development, from 1 to emerging to 4 for advanced.¹⁵ Whenever successful systems offered incomplete or mixed guidance, SABER-Teachers relied on the impact evaluation evidence and expert opinion to establish these four levels. **Table A.2** in the Appendix displays the levels of development for all indicators. It is important to note that while SABER-Teachers uses numerical scores to calculate the levels of development, it only displays the latter. This decision was made to keep the emphasis of the classification on helping education systems improve and to discourage comparisons across systems based solely on the numerical scores.

¹⁵ For example, in the first policy goal “Attracting the best into teaching”, in the third policy lever “Are pay and benefits appealing for talented candidates?”, the first indicator asks “Is starting teacher pay competitive?”. Following the teacher policies of successful education systems, SABER-Teachers awarded a score of 4 (advanced) to systems where starting teacher pay is 80% or more of gross domestic product (GDP) per capita, a 3 (established) to those where it is 60 to 79% of GDP per capita, a 2 (emerging) to those where it is 50 to 59% of GDP per capita and a 1 (Latent) to those where it is 49% or less of GDP per capita.

Then, SABER-Teachers identified the questions from its data collection instrument that would allow it to classify an education system on each indicator.

SABER-Teachers linked each indicator to one (or more) questions from its questionnaires. **Table A.3** in the Appendix displays the codes of the questions that are used to classify an education system on all the indicators. This list has been adjusted as the SABER-Teachers team felt the need to ask new questions or to modify those already asked to adequately measure system performance on each of the indicators. There are also likely to be further adjustments in this list in the future, as more systems participate in SABER-Teachers and the team continues to learn about how to adequately classify a system's teacher policies.

In order to classify an education system, SABER-Teachers draws on its data to assign a score to each indicator, average the scores for all indicators in each policy lever and ultimately average the scores for all levers in each policy goal.

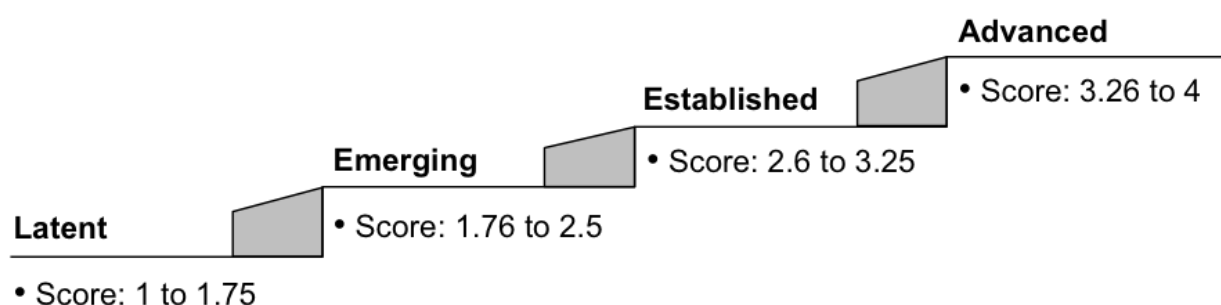
SABER-Teachers classifies education systems by following a simple three-step process: first, it uses the data from the questions linked to each indicator to score each indicator individually on a scale of 1 through 4; then, it does a simple average of the scores for all indicators within each policy lever to obtain a score—and thus, a level of development—for that lever;¹⁶ and finally, it does a simple average of the scores for all policy levers within each policy goal to obtain a score and a level of development for that goal.¹⁷ The decision to use simple averages to calculate the scores for the policy goals and levers was made not only because there is no strong empirical basis on which SABER-Teachers could decide to assign different weights to some indicators or levers, but also to keep the calculations as easy-to-understand as possible to non-technical audiences. **Table A.4** in the Appendix offers an overview of performance in each lever, according to the indicators.

¹⁶ For example, if a lever has three indicators with scores 1, 2 and 3, the overall score for that lever is $1+2+3=6/3=2$.

¹⁷ For example, if a goal has three levers with scores 2, 3 and 4, the overall score for that goal is $2+3+4=9/3=3$.

The cut-off scores for the averages for the policy goals and levers were chosen so that systems had an equal probability of falling into any of the classifications. **Figure III.1** below shows the cut-off scores for the averages used for the goals and levers. Whenever a score falls exactly between .05 and .06, it is considered to fall in the higher level (i.e., all mid-points are rounded up). So, for example, if an education system obtains a score of 1.755, it is considered to be Emerging, not Latent. These cut-off scores allow systems to be classified in any of the four areas, except for the last policy goal, “Motivating Teachers to Perform,” in which systems can at most earn an “Established” classification.

Figure III.1: Cut-Off Scores for Each Level of Development



Source: Authors' elaboration.

The calculations of the levels of development of each policy goal and lever have been automated through the SABER-Teachers website so that whenever new data are collected and uploaded, the site can display the classifications instantly. This automation process not only speeds up the classification process; it also ensures that the data are consistently used to classify all education system in the same way. Further, while any effort that seeks to classify the teacher policies of an education system will invariably be subjective, the fact that SABER-Teachers has adopted a clear set of criteria and applies them consistently enhances the transparency of the classification process.

IV. What Are Some Key Issues that Are Worth Clarifying about the Way in Which SABER-Teachers Classifies Education Systems?

SABER-Teachers focuses on teacher policies rather than on their implementation, but it tries to identify and assess implementation gaps whenever this is possible.

SABER-Teachers focuses on assessing whether the policies that are in place in an education system are conducive to ensuring all students have effective teachers. While the SABER-Teachers team understands that in some countries there might be gaps between implementation and policy, this decision was made for analytical and pragmatic reasons. First, policies clarify the expectations of a system—they give a sense of what is possible. Therefore, before we even assess whether something is happening, it is key that we understand whether the system actually is actually demanding it. To date, while we know something about the “inputs” and (more recently) “outputs” of teacher policy systems, we know very little about the expectations of these systems. Thus, the SABER-Teachers team is convinced that the focus on policies is essential to have an idea of what to expect in each education system. Second, the focus on policies allows SABER-Teachers to be taken to scale fairly quickly and at a relatively low cost. Only in its first year, SABER-Teachers has collected data on over 30 education systems. Finally, while SABER-Teachers focuses on policies, in areas where there is likely to be a wide implementation gap, education systems are classified both based on their policies and on their implementation. For example, indicator 2.A.1 asks “Is there an established process to screen applicants to pre-service teacher training?”, in order to gauge the selectivity of initial training programs, but later indicator 2.A.2 asks “How many applicants enter pre-service teacher training programs?”, in order to assess the extent to which these entry standards are enforced.

Missing data only hurts an education system’s classification in SABER-Teachers in those cases where it is safe to assume that such data ought to be available.

SABER-Teachers works closely with the local consultants in charge of data collection to ensure that the information it compiles is as accurate and as complete as

possible.¹⁸ However, in some cases, key data are not being produced or are not publicly accessible. When classifying education systems, SABER-Teachers generally does not assign systems a low grade for their data availability (there is a SABER work program devoted entirely to Education Management Information Systems or EMIS). Yet, the SABER-Teachers team believes there are two indicators for which it is safe to assume that data should exist. The first one is in indicator 1.A.2 (“Are there standards for what students must know and be able to do?”) and the second one is indicator 2.A.7 (“How many models of pre-service teacher training are there for primary school teachers?”). In both cases, it is safe to assume that an education system should have these data, so the SABER-Teachers assigns systems a 1 (Latent) score for not having them.

Whenever two or more indicators are contingent on each other, SABER-Teachers does not over-penalize education systems that do not meet the first indicator.

As Table A.1 in the Appendix indicates, many of the indicators are follow-up questions. For example, indicator 2.A.4 asks “Are there requirements to become a primary school teacher?” and later indicator 2.A.6 asks “How many primary school teachers meet requirements to enter teaching?” If a system does not have requirements to enter teaching, SABER-Teachers classifies that system with a 1 (Latent) score on indicator 2.A.4 (in accordance to Table A.2 in the Appendix), but it will not assign it a score on indicator 2.A.6, since that would imply penalizing that system twice for not having requirements.

V. How Will the Classification System Develop Over Time?

Collecting data on more systems will test the face validity of the classification.

As SABER-Teachers continues to collect data on more developed and developing

¹⁸ For an overview of the data collection process, see Vegas, E., Loeb, S., Romaguera, P., Paglayan, A. S., Goldstein, N. & Ganimian, A. J. (2011). “SABER-Teachers. Objectives, Rationale, Methodological Approach and Products.” Washington, DC: The World Bank.

countries, it will be able to gauge whether the classifications attributed to education systems are consistent with reality and useful. To the extent that there are inconsistencies, the SABER-Teachers team will review the classification system.

Internal and external experts help SABER-Teachers team refine the classification.

SABER-Teachers team will continue to share the classification system to experts both within and outside of the Bank for feedback. In some cases, the team might decide to experiment with presenting the SABER-Teachers classifications to experts in a given country. While the system is not meant to always yield the same classifications as expert opinion, the team will be able to explain why it is valuing some goals, levers and indicators over others and discuss its criteria for doing so with country experts.

Classifications are presented to government officials before making them public.

SABER-Teachers' objective is to inform policy dialogue in education systems that need to improve, not to stigmatize them. Therefore, whenever appropriate, prior to the release of a country report, Bank representatives might present the classifications to government officials. Officials cannot be given a final say over the classifications—this would defeat the purpose of the project. Yet, officials can help identify missing or incorrect data and offer additional information that could potentially affect the scoring, and in turn, the classifications. This feedback can also be used as an ongoing check on the strength of the classification system.

APPENDIX

Table A.1: SABER-Teachers Policy Goals, Policy Levers and Indicators

1. Setting Clear Expectations for Teachers	
A. Are there clear expectations for what students should know and be able to do?	<ol style="list-style-type: none"> 1. Is there one or more curricula? 2. Are there standards for what students must know and be able to do?
B. Are there clear expectations for what teachers are supposed to do?	<ol style="list-style-type: none"> 1. Are the tasks that teachers are expected to carry out officially stipulated? 2. Are there performance goals for teachers?
C. Do teachers have enough time to fulfill their duties?	<ol style="list-style-type: none"> 1. How long is the school year at the primary level? 2. How long is the school year at the secondary level? 3. Does the statutory definition of working time for primary school teachers recognize non-teaching hours? 4. Does the statutory definition of working time for secondary school teachers recognize non-teaching hours? 5. How long is primary school teachers' working time per year? 6. How long is secondary school teachers' working time per year? 7. What is the share of working time allocated to teaching for primary school teachers? 8. What is the share of working time allocated to teaching for secondary school teachers?
2. Attracting the Best into Teaching	
A. Are entry requirements set up to attract talented candidates?	<ol style="list-style-type: none"> 1. Is there an established process to screen applicants to pre-service teacher training? 2. How many applicants enter pre-service teacher training programs? 3. Are there requirements to become a primary school teacher? 4. Are there requirements to become a secondary school teacher? 5. [Only if answer to 2.A.3 was "yes"] How many primary school teachers meet requirements to enter teaching? 6. [Only if answer to 2.A.4 was "yes"] How many secondary school teachers meet requirements to enter teaching? 7. How many models of pre-service teacher training are there for primary school teachers? 8. How many models of pre-service teacher training are there for secondary school teachers?

<p>B. Are pay and benefits appealing for talented candidates?</p>	<ol style="list-style-type: none"> 1. Is starting teacher pay competitive? 2. How often is teacher pay disbursed on time? 3. Does pay change over a teacher's career? 4. Is teacher pay differentiated by subject, geographic area, grade or student population? 5. Does pay vary according to teacher performance? 6. Are all teachers entitled to retirement and health benefits?
<p>C. Are working conditions appealing for talented applicants?</p>	<ol style="list-style-type: none"> 1. How many schools comply with standards for the infrastructure, hygiene and sanitation of schools? 2. How many primary school students are there per each teacher? 3. How many secondary school students are there per teacher?
<p>D. Are there attractive career opportunities?</p>	<ol style="list-style-type: none"> 1. Are there opportunities for horizontal promotions for teachers? 2. Are promotion opportunities linked to performance?
<p>3. Preparing Teachers with Useful Training and Experience</p>	
<p>A. Are there minimum standards for pre-service teaching training programs?</p>	<ol style="list-style-type: none"> 1. Is there an established process to screen applicants to pre-service teacher training? 2. How many applicants enter pre-service teacher training programs? 3. Are there requirements to become a primary school teacher? 4. Are there requirements to become a secondary school teacher? 5. [Only if answer to 2.A.3 was "yes"] How many primary school teachers meet requirements to enter teaching? 6. [Only if answer to 2.A.4 was "yes"] How many secondary school teachers meet requirements to enter teaching? 7. How many models of pre-service teacher training are there for primary school teachers? 8. How many models of pre-service teacher training are there for secondary school teachers?
<p>B. Are trainee teachers required to have classroom experience to be allowed to teach?</p>	<ol style="list-style-type: none"> 1. Is starting teacher pay competitive? 2. How often is teacher pay disbursed on time? 3. Does pay change over a teacher's career? 4. Is teacher pay differentiated by subject, geographic area, grade or student population? 5. Does pay vary according to teacher performance? 6. Are all teachers entitled to retirement and health benefits?

<p>C. Do teachers have a smooth transition from pre-service training into their first job?</p>	<ol style="list-style-type: none"> 1. How many schools comply with standards for the infrastructure, hygiene and sanitation of schools? 2. How many primary school students are there per each teacher? 3. How many secondary school students are there per teacher?
<p>4. Matching Teachers' Skills with Students' Needs</p>	
<p>A. Are there incentives for teachers to work at hard-to-staff schools?</p>	<ol style="list-style-type: none"> 1. Are teachers entitled to monetary incentives and/or a higher compensation package for working in hard-to-staff schools? 2. Is teaching experience used in deciding transfer priorities?
<p>B. Are there incentives for teachers to teach critical shortage subjects?</p>	<ol style="list-style-type: none"> 1. Are there critical shortage subjects? 2. [Only if answer to 4.B.1 was "yes"] Are teachers entitled to monetary incentives and/or a higher compensation package for teaching critical shortage subjects?
<p>5. Leading Teachers with Strong Principals</p>	
<p>A. Are requirements to become a principal set up to attract talented candidates?</p>	<ol style="list-style-type: none"> 1. Are there requirements to become a principal? 2. [Only if answer to 5.A.1 was "yes"] How many requirements are in place to select principals?
<p>B. Do principals have incentives to perform well?</p>	<ol style="list-style-type: none"> 1. Are principals explicitly required to provide guidance to teachers? 2. Are principals evaluated regularly? 3. Is average principal pay competitive? 4. Can principals receive monetary incentives for performance?
<p>C. Can principals make key decisions to improve teaching?</p>	<ol style="list-style-type: none"> 1. Do principals have a say or decide on teacher hiring? 2. Do principals have a say or decide on teacher dismissals? 3. Do principals have a say or decide on the distribution of time during school hours? 4. Do principals decide on teachers' promotions?
<p>6. Monitoring Teaching and Learning</p>	

<p>A. Are there enough student achievement data to inform teaching?</p>	<ol style="list-style-type: none"> 1. Are there assessments of student learning at any level (international, national, sub-national)? 2. [Only if answer to 6.A.1 was “yes”] How frequent are assessments of student learning? 3. [Only if answer to 6.A.1 was “yes”] How many grades do assessments of student learning include? 4. [Only if answer to 6.A.1 was “yes”] Do national and/or sub-national assessments of student learning cover a sample or all students? 5. [Only if answer to 6.A.1 was “yes”] In national and sub-national assessments, is it possible to track students over time? 6. [Only if answer to 6.A.1 was “yes”] In national and sub-national assessments, can students’ scores in assessments be matched to individual teachers?
<p>B. Are there enough teacher performance data to inform teaching?</p>	<ol style="list-style-type: none"> 1. Are there teacher evaluations (internal or external)? 2. [Only if answer to 6.A.2 was “yes”] How frequent are teacher evaluations? 3. [Only if answer to 6.A.2 was “yes”] How many sources do teacher evaluations rely on? 4. [Only if answer to 6.A.2 was “yes”] How many criteria do evaluations use to assess teaching? 5. [Only if answer to 6.A.2 was “yes”] Are teachers required to participate in evaluations? 6. [Only if answer to 6.A.2 was “yes”] How many teachers fail their evaluations? 7. [Only if answer to 6.A.2 was “yes”] Is it possible to track teachers over time?
<p>7. Supporting Teachers to Improve Instruction</p>	
<p>A. Are teacher performance data used to improve teaching?</p>	<ol style="list-style-type: none"> 1. Are teacher performance evaluations used to inform classroom practice? 2. If a teacher obtains an unsatisfactory result in an evaluation, is he or she assigned to a supervisor? 3. Are teacher performance evaluations used to assign professional development?

<p>B. Is there professional development to improve practice?</p>	<ol style="list-style-type: none"> 1. Are primary school teachers required to participate in professional development? 2. Are secondary school teachers required to participate in professional development? 3. How many days of professional development are primary school teachers required to complete? 4. How many days of professional development are secondary school teachers required to complete? 5. Does professional development include activities other than courses and workshops or education conferences and seminars? 6. How many aspects related to teaching does professional development include other than school management and administration for primary school teachers? 7. How many aspects related to teaching does professional development include other than school management and administration for secondary school teachers? 8. Are individual teachers responsible for paying for their professional development?
<p>8. Motivating Teachers to Perform</p>	
<p>A. Are there minimum mechanisms to hold teachers accountable?</p>	<ol style="list-style-type: none"> 1. Are there requirements for primary school teachers to remain in teaching? 2. Are there requirements for secondary school teachers to remain in teaching? 3. Can teachers be dismissed for misconduct or child abuse? 4. Is teacher absenteeism taken into account in teacher performance evaluations? 5. Are there penalties (salary or dismissal) for teacher absenteeism?
<p>B. Are there rewards for high-performing teachers?</p>	<ol style="list-style-type: none"> 1. Do high-performing teachers get higher salaries (monetary bonuses)? 2. Do high-performing teachers get better chances of promotion? 3. Do high-performing teachers get more public recognition? 4. What share of teachers' salary is affected by performance?
<p>C. Are there sanctions for low-performing teachers?</p>	<ol style="list-style-type: none"> 1. Is there a mandatory probation period for teachers before they are granted open-ended appointments? 2. Is information from job performance evaluations used to grant open-ended appointments? 3. Are there pay cuts for low-performing teachers? 4. Are job evaluations used to dismiss ineffective teachers?

Draft. Please, do not circulate.

Source: *Authors' elaboration.*

Table A.2: Levels of Development for all SABER-Teachers Indicators

1. Setting Clear Expectations for Teachers					
A. Are there clear expectations for what students should know and be able to do?					
Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. Is there one or more curricula?	No		Yes		<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems
2. Are there standards for what students must know and be able to do?	No OR Missing	Yes, at the local level	Yes, at the sub-national level	Yes, at the national level	<ul style="list-style-type: none"> • Expert judgment
B. Are there clear expectations for what teachers are supposed to do?					
Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. Are the tasks that teachers are expected to carry out officially stipulated?	No		Yes		<ul style="list-style-type: none"> • Expert judgment
2. Are there performance goals for teachers?	No		Yes		<ul style="list-style-type: none"> • Expert judgment
C. Do teachers have enough time to fulfill their duties?					
Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. How long is the school year at the primary level?	Less than 400 hours	400 hours or more but less than 600	600 hours or more but less than 800	800 hours or more	<ul style="list-style-type: none"> • Policies of successful education systems

2. How long is the school year at the secondary level?	Less than 400 hours	400 hours or more but less than 600	600 hours or more but less than 800	800 hours or more	<ul style="list-style-type: none"> • Policies of successful education systems
3. Does the statutory definition of working time for primary school teachers recognize non-teaching hours?	No, there is no statutory definition of working time	No, it is the number of teaching hours	Yes, it is the number of hours spent at school	Yes, it is the overall number of working hours	<ul style="list-style-type: none"> • Expert judgment
4. Does the statutory definition of working time for secondary school teachers recognize non-teaching hours?	No, there is no statutory definition of working time	No, it is the number of teaching hours	Yes, it is the number of hours spent at school	Yes, it is the overall number of working hours	<ul style="list-style-type: none"> • Expert judgment
5. How long is primary school teachers' working time per year?	Working time is less than 1000 hours	Working time is equal to or greater than 1000 hours but less than 1520 hours	Working time is equal to or greater than 1520 hours but less than 1650 hours	Working time is equal to or greater than 1650 hours	<ul style="list-style-type: none"> • Policies of successful education systems
6. How long is secondary school teachers' working time per year?	Working time is less than 1000 hours	Working time is equal to or greater than 1000 hours but less than 1520 hours	Working time is equal to or greater than 1520 hours but less than 1650 hours	Working time is equal to or greater than 1650 hours	<ul style="list-style-type: none"> • Policies of successful education systems
7. What is the share of working time allocated to teaching for primary school teachers?	Teaching time is 80% to 100% of working time	Teaching time is 60% to 79% of working time	Teaching time is 50% to 59% of working time	Teaching time is less than 50% of working time	<ul style="list-style-type: none"> • Policies of successful education systems

8. What is the share of working time allocated to teaching for secondary school teachers?	Teaching time is 80% to 100% of working time	Teaching time is 60% to 79% of working time	Teaching time is 50% to 59% of working time	Teaching time is less than 50% of working time	<ul style="list-style-type: none"> • Policies of successful education systems
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2. Attracting the Best into Teaching

A. Are entry requirements set up to attract talented candidates?

Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. Is there an established process to screen applicants to pre-service teacher training?	No		Yes		<ul style="list-style-type: none"> • Review of evidence
2. How many applicants enter pre-service teacher training programs?	90% or more enter	51% to 89% enter	21% to 50% enter	20% or less enter	<ul style="list-style-type: none"> • Expert judgment
3. Are there requirements to become a primary school teacher?	No		Yes		<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems
4. Are there requirements to become a secondary school teacher?	No		Yes		<ul style="list-style-type: none"> • Policies of successful education systems
5. [Only if answer to 2.A.3 was "yes"] How many primary school teachers meet requirements to enter teaching?	Less than 50% of teachers meet them	50 to 69% of teachers meet them	70 to 89% of teachers meet them	90% or more of teachers meet them	<ul style="list-style-type: none"> • Expert judgment • Policies of successful education systems

6. [Only if answer to 2.A.4 was "yes"] How many secondary school teachers meet requirements to enter teaching?	Less than 50% of teachers meet them	50 to 69% of teachers meet them	70 to 89% of teachers meet them	90% or more of teachers meet them	<ul style="list-style-type: none"> • Policies of successful education systems
7. How many models of pre-service teacher training are there for primary school teachers?	Missing	A consecutive model	A concurrent or a concurrent and a consecutive model	A concurrent and an alternative model	<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems
8. How many models of pre-service teacher training are there for secondary school teachers?	Missing	A consecutive model	A concurrent or a concurrent and a consecutive model	A concurrent and an alternative model	<ul style="list-style-type: none"> • Policies of successful education systems
B. Are pay and benefits appealing for talented candidates?					
Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. Is starting teacher pay competitive?	Very uncompetitive (less than 50% of GDP per capita)	Uncompetitive (50% to 59% of GDP per capita)	Competitive (60% to 79% of GDP per capita)	Highly competitive (80% or more of GDP per capita)	<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems
2. How often is teacher pay disbursed on time?	Less than 6 months in the year	6 to 9 months in the year	10 months or more in the year		<ul style="list-style-type: none"> • Expert judgment
3. Does pay change over a teacher's career?	It remains flat (ratio of year 15 to year 1 is 1)	It changes little (ratio of year 15 to year 1 is greater than 1 but less than 1.2)	It changes moderately (ratio of year 15 to year 1 is equal to or greater than 1.2 but less than 1.5)	It changes considerably (ratio of year 15 to year 1 is equal to or greater than 1.5)	<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems

4. Is teacher pay differentiated by subject, geographic area, grade or student population?	No, it is not differentiated at all	Yes, it is differentiated by 1 factor	Yes, it is differentiated by 2 factors	Yes, it is differentiated by 3 or more factors	<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems
5. Does pay vary according to teacher performance?	No		Yes		<ul style="list-style-type: none"> • Expert judgment
6. Are all teachers entitled to retirement and health benefits?	No, they are not entitled to either of these benefits	Yes, they are entitled to one of these benefits	Yes, they are entitled to both of these benefits		<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems
C. Are working conditions appealing for talented applicants?					
Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. How many schools comply with standards for the infrastructure, hygiene and sanitation of schools?	There are no standards for the infrastructure, hygiene and sanitation of schools	50 to 69% of schools comply with them	70 to 89% of schools comply with them	90% or more of schools comply with them	<ul style="list-style-type: none"> • Policies of successful education systems
2. How many primary school students are there per each teacher?	51 or more	31 to 50	25 to 30	Less than 25	<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems
3. How many secondary school students are there per teacher?	51 or more	31 to 50	25 to 30	Less than 25	<ul style="list-style-type: none"> • Policies of successful education systems

D. Are there attractive career opportunities?					
Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. Are there opportunities for horizontal promotions for teachers?	No, there are no lead-, master- or head- teacher positions		Yes, there are lead-, master- or head- teacher positions		• Expert judgment
2. Are promotion opportunities linked to performance?	No		Yes		• Expert judgment
3. Preparing Teachers with Useful Training and Experience					
A. Are there minimum standards for pre-service teaching training programs?					
Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. Is there an accreditation process for pre-service teacher training programs?	No		Yes		• Expert judgment
2. Are there specifications for how much these programs should devote to the teaching of different subjects for primary school teachers?	No		Yes		• Expert judgment
3. Are there specifications for how much these programs should devote to the teaching of different subjects for secondary school teachers?	No		Yes		• Expert judgment

<p>4. [Only if answer to 3.A.2 was “yes”] In the specifications for primary school teachers, how much time is devoted to pedagogical theory and methods and how much to subject matter knowledge?</p>	<p>More hours of pedagogy than of subject matter</p>	<p>The same hours of pedagogy as of subject matter</p>	<p>Fewer hours of pedagogy than of subject matter</p>		<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems
<p>5. [Only if answer to 3.A.3 was “yes”] In the specifications for secondary school teachers, how much time is devoted to pedagogical theory and methods and how much to subject matter knowledge?</p>	<p>More hours of pedagogy than of subject matter</p>	<p>The same hours of pedagogy as of subject matter</p>	<p>Fewer hours of pedagogy than of subject matter</p>		<ul style="list-style-type: none"> • Review of evidence
<p>B. Are trainee teachers required to have classroom experience to be allowed to teach?</p>					
Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
<p>1. Is classroom experience a required part of teacher training for primary school teachers?</p>	<p>No</p>		<p>Yes</p>		<ul style="list-style-type: none"> • Review of evidence

2. Is classroom experience a required part of teacher training for secondary school teachers?	No		Yes		<ul style="list-style-type: none"> • Expert judgment • Policies of successful education systems
3. [Only if answer to 3.B.1 was "yes"] How much experience are primary school teachers required to have?	No time stipulation	Less than 6 months	7 to 11 months	1 year or more	<ul style="list-style-type: none"> • Expert judgment
4. [Only if answer to 3.B.2 was "yes"] How much experience are secondary school teachers required to have?	No time stipulation	Less than 6 months	7 to 11 months	1 year or more	<ul style="list-style-type: none"> • Expert judgment
C. Do teachers have a smooth transition from pre-service training into their first job?					
Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. Are new primary school teachers required to participate in induction and/or mentoring programs?	No		Yes		<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems
2. Are new secondary school teachers required to participate in an induction and/or mentoring programs?	No		Yes		<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems

<p>3. [Only if answer to 3.C.1 was "yes"] What is the required length of induction and/or mentoring programs for primary school teachers?</p>	<p>No time stipulation</p>	<p>Less than 6 months</p>	<p>7 to 11 months</p>	<p>1 year or more</p>	<ul style="list-style-type: none"> • Policies of successful education systems
<p>4. [Only if answer to 3.C.2 was "yes"] What is the required length of induction and/or mentoring programs for secondary school teachers?</p>	<p>No time stipulation</p>	<p>Less than 6 months</p>	<p>7 to 11 months</p>	<p>1 year or more</p>	<ul style="list-style-type: none"> • Policies of successful education systems

4. Matching Teachers' Skills with Students' Needs

A. Are there incentives for teachers to work at hard-to-staff schools?

Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
<p>1. Are teachers entitled to monetary incentives and/or a higher compensation package for working in hard-to-staff schools?</p>	<p>No</p>		<p>Yes, they are entitled to either bonuses or a better compensation package</p>	<p>Yes, they are entitled to both bonuses and a better compensation package</p>	<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems
<p>2. Is teaching experience used in deciding transfer priorities?</p>	<p>Yes</p>		<p>No</p>		<ul style="list-style-type: none"> • Expert judgment

B. Are there incentives for teachers to teach critical shortage subjects?					
Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. Are there critical shortage subjects?	No		Yes		<ul style="list-style-type: none"> • Policies of successful education systems
2. [Only if answer to 4.B.1 was "yes"] Are teachers entitled to monetary incentives and/or a higher compensation package for teaching critical shortage subjects?	No		Yes, they are entitled to either bonuses or a better compensation package	Yes, they are entitled to both bonuses and a better compensation package	<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems
5. Leading Teachers with Strong Principals					
A. Are requirements to become a principal set up to attract talented candidates?					
Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. Are there requirements to become a principal?	No		Yes		<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems
2. [Only if answer to 5.A.1 was "yes"] How many requirements are in place to select principals?		One process	Two processes	Three or more processes	<ul style="list-style-type: none"> • Expert judgement • Policies of successful education systems

B. Do principals have incentives to perform well?					
Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. Are principals explicitly required to provide guidance to teachers?	No		Yes		<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems
2. Are principals evaluated regularly?	No		Yes		<ul style="list-style-type: none"> • Expert judgment
3. Is average principal pay competitive?	Very uncompetitive (Less than 80% of GDP per capita)	Uncompetitive (80%-99% of GDP per capita)	Competitive (100%-139% of GDP per capita)	Highly competitive (140% or more of GDP per capita)	<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems
4. Can principals receive monetary incentives for performance?	No		Yes		<ul style="list-style-type: none"> • Review of evidence
C. Can principals make key decisions to improve teaching?					
Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. Do principals have a say or decide on teacher hiring?	No		Yes		<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems
2. Do principals have a say or decide on teacher dismissals?	No		Yes		<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems

3. Do principals have a say or decide on the distribution of time during school hours?	No		Yes		<ul style="list-style-type: none"> • Expert judgment • Policies of successful education systems
4. Do principals decide on teachers' promotions?	No		Yes		<ul style="list-style-type: none"> • Expert judgment

6. Monitoring Teaching and Learning

A. Are there enough student achievement data to inform teaching?

Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. Are there assessments of student learning at any level (international, national, sub-national)?	No	Yes, at least one type of assessment	Yes, more than one type of assessment		<ul style="list-style-type: none"> • Expert judgment • Policies of successful education systems
2. [Only if answer to 6.A.1 was "yes"] How frequent are assessments of student learning?	Every 6 years or more	Every 4-5 years	Every 2-3 years	Annual	<ul style="list-style-type: none"> • Expert judgment • Policies of successful education systems
3. [Only if answer to 6.A.1 was "yes"] How many grades do assessments of student learning include?		At least one grade or more in either primary or secondary	One grade in each primary and secondary	Three grades or more covering both primary and secondary	<ul style="list-style-type: none"> • Policies of successful education systems

4. [Only if answer to 6.A.1 was "yes"] Do national and/or sub-national assessments of student learning cover a sample or all students?		All exams are sample-based	Some census-, some sample-based	Most exams are census-based	• Expert judgment
5. [Only if answer to 6.A.1 was "yes"] In national and sub-national assessments, is it possible to track students over time?	No		Yes		• Expert judgment
6. [Only if answer to 6.A.1 was "yes"] In national and sub-national assessments, can students' scores in assessments be matched to individual teachers?	No	Yes, for at least one exam	Yes, for most exams	Yes, for all exams	• Expert judgment
B. Are there enough teacher performance data to inform teaching?					
Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. Are there teacher evaluations (internal or external)?	No		Yes		• Policies of successful education systems
2. [Only if answer to 6.A.2 was "yes"] How frequent are teacher evaluations?	Every 6 years or more	Every 4 to 5 years	Every 2 to 3 years	At least annually	• Expert judgment • Policies of successful education systems

<p>3. [Only if answer to 6.A.2 was "yes"] How many sources do teacher evaluations rely on?</p>	<p>1 or 2 sources</p>	<p>3 sources</p>	<p>4 sources</p>	<p>5 or more sources</p>	<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems
<p>4. [Only if answer to 6.A.2 was "yes"] How many criteria do evaluations use to assess teaching?</p>		<p>1 of the following criteria are used: Teacher knowledge, Classroom practices, Student Background, and Student Learning</p>	<p>2 of the following criteria are used: Teacher knowledge, Classroom practices, Student Background, and Student Learning</p>	<p>At least 3 out of the following criteria are used: Teacher knowledge, Classroom practices, Student Background, and Student Learning</p>	<ul style="list-style-type: none"> • Policies of successful education systems
<p>5. [Only if answer to 6.A.2 was "yes"] Are teachers required to participate in evaluations?</p>	<p>No</p>		<p>Yes</p>		<ul style="list-style-type: none"> • Policies of successful education systems
<p>6. [Only if answer to 6.A.2 was "yes"] How many teachers fail their evaluations?</p>	<p>No teachers fail their evaluations</p>	<p>Less than 5% of teachers fail their evaluations</p>	<p>At least 5% of teachers fail their evaluations</p>		<ul style="list-style-type: none"> • Expert judgment
<p>7. [Only if answer to 6.A.2 was "yes"] Is it possible to track teachers over time?</p>	<p>No</p>		<p>Yes</p>		<ul style="list-style-type: none"> • Expert judgment

7. Supporting Teachers to Improve Instruction					
A. Are teacher performance data used to improve teaching?					
Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. Are teacher performance evaluations used to inform classroom practice?	No		Yes		<ul style="list-style-type: none"> • Policies of successful education systems
2. If a teacher obtains an unsatisfactory result in an evaluation, is he or she assigned to a supervisor?	No		Yes		<ul style="list-style-type: none"> • Review of evidence
3. Are teacher performance evaluations used to assign professional development?	No		Yes		<ul style="list-style-type: none"> • Expert judgment
B. Is there professional development to improve practice?					
Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. Are primary school teachers required to participate in professional development?	No		Yes		<ul style="list-style-type: none"> • Policies of successful education systems
2. Are secondary school teachers required to participate in professional development?	No		Yes		<ul style="list-style-type: none"> • Policies of successful education systems

<p>3. How many days of professional development are primary school teachers required to complete?</p>	<p>There is no specification</p>	<p>1 to 5 days</p>	<p>6 to 9 days</p>	<p>10 or more days</p>	<ul style="list-style-type: none"> • Policies of successful education systems
<p>4. How many days of professional development are secondary school teachers required to complete?</p>	<p>There is no specification</p>	<p>1 to 5 days</p>	<p>6 to 9 days</p>	<p>10 or more days</p>	<ul style="list-style-type: none"> • Policies of successful education systems
<p>5. Does professional development include activities other than courses and workshops or education conferences and seminars?</p>	<p>Yes, 1 other type of activity</p>	<p>Yes, 2 other types of activities</p>	<p>Yes, 3 to 4 other types of activities</p>	<p>Yes, 5 or more other types of activities</p>	<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems
<p>6. How many aspects related to teaching does professional development include other than school management and administration for primary school teachers?</p>	<p>None</p>	<p>1 to 2</p>	<p>3 to 4</p>	<p>5 or more</p>	<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems

7. How many aspects related to teaching does professional development include other than school management and administration for secondary school teachers?	None	1 to 2	3 to 4	5 or more	<ul style="list-style-type: none"> • Policies of successful education systems
8. Are individual teachers responsible for paying for their professional development?	Teachers pay some costs of professional development		Teachers pay none of the costs of professional development		<ul style="list-style-type: none"> • Expert judgment

8. Motivating Teachers to Perform

A. Are there minimum mechanisms to hold teachers accountable?

Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. Are there requirements for primary school teachers to remain in teaching?	No		Yes		<ul style="list-style-type: none"> • Expert judgment
2. Are there requirements for secondary school teachers to remain in teaching?	No		Yes		<ul style="list-style-type: none"> • Expert judgment
3. Can teachers be dismissed for misconduct or child abuse?	They cannot be dismissed for either	They can be dismissed for either misconduct or child abuse	Yes, they can be dismissed for misconduct and child abuse		<ul style="list-style-type: none"> • Expert judgment

4. Is teacher absenteeism taken into account in teacher performance evaluations?	No		Yes		<ul style="list-style-type: none"> • Review of evidence
5. Are there penalties (salary or dismissal) for teacher absenteeism?	No		Yes		<ul style="list-style-type: none"> • Review of evidence
B. Are there rewards for high-performing teachers?					
Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. Do high-performing teachers get higher salaries (monetary bonuses)?	No		Yes		<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems
2. Do high-performing teachers get better chances of promotion?	No		Yes		<ul style="list-style-type: none"> • Expert judgment
3. Do high-performing teachers get more public recognition?	No		Yes		<ul style="list-style-type: none"> • Policies of successful education systems
4. What share of teachers' salary is affected by performance?	Less than 1% of teachers' salaries	1% to 4% of teachers' salaries	5% to 9% of teachers' salaries	10% or more of teachers' salaries	<ul style="list-style-type: none"> • Expert judgment

C. Are there sanctions for low-performing teachers?					
Indicator	Latent (1)	Emerging (2)	Established (3)	Advanced (4)	Justification
1. Is there a mandatory probation period for teachers before they are granted open-ended appointments?	No		Yes		<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems
2. Is information from job performance evaluations used to grant open-ended appointments?	No		Yes		<ul style="list-style-type: none"> • Review of evidence
3. Are there pay cuts for low-performing teachers?	No		Yes		<ul style="list-style-type: none"> • Policies of successful education systems
4. Are job evaluations used to dismiss ineffective teachers?	No		Yes		<ul style="list-style-type: none"> • Review of evidence • Policies of successful education systems

Source: Authors' elaboration.

Table A.3: The SABER-Teachers Indicators and Questions from Data Collection

1. Setting Clear Expectations for Teachers		
A. Are there clear expectations for what students should know and be able to do?	1. Is there one or more curricula?	S1: 10
	2. Are there standards for what students must know and be able to do?	S1: 13
B. Are there clear expectations for what teachers are supposed to do?	1. Are the tasks that teachers are expected to carry out officially stipulated?	S5: 13
	2. Are there performance goals for teachers?	S9: 13
C. Do teachers have enough time to fulfill their duties?	1. How long is the school year at the primary level?	S1: 7a; 9a
	2. How long is the school year at the secondary level?	S1: 7b; 9b
	3. Does the statutory definition of working time for primary school teachers recognize non-teaching hours?	S5: 6a
	4. Does the statutory definition of working time for secondary school teachers recognize non-teaching hours?	S5: 6b
	5. How long is primary school teachers' working time per year?	S5: 7a (year) - or, if empty, S5: 7a (week), divide by S1:8a then multiply S5:8a
	6. How long is secondary school teachers' working time per year?	S5: 7b (year) - or, if empty, S5: 7b (week), divide by S1:8b then multiply S5:8b
	7. What is the share of working time allocated to teaching for primary school teachers?	S5: 7; 8
	8. What is the share of working time allocated to teaching for secondary school teachers?	S5: 7a (year); 10a (year); 7b (week); 10b (week)
2. Attracting the Best into Teaching		
A. Are entry requirements set up to attract talented candidates?	1. Is there an established process to screen applicants to pre-service teacher training?	S3: 5a-e
	2. How many applicants enter pre-service teacher training programs?	S12: 12-13
	3. Are there requirements to become a primary school teacher?	S2: 3

1. Setting Clear Expectations for Teachers		
	4. Are there requirements to become a secondary school teacher?	S2: 7
	5. [Only if answer to 2.A.3 was "yes"] How many primary school teachers meet requirements to enter teaching?	S12: 3a (primary); 11a
	6. [Only if answer to 2.A.4 was "yes"] How many secondary school teachers meet requirements to enter teaching?	S12: 3a (primary); 11b
	7. How many models of pre-service teacher training are there for primary school teachers?	S2: 4a
	8. How many models of pre-service teacher training are there for secondary school teachers?	S3: 4b
B. Are pay and benefits appealing for talented candidates?	1. Is starting teacher pay competitive?	S12: 27
		Edstats: GDP per capita
	2. How often is teacher pay disbursed on time?	S12: 36
	3. Does pay change over a teacher's career?	S12: 27; 30
	4. Is teacher pay differentiated by subject, geographic area, grade or student population?	S7: 5e-g; 9b, e-g
	5. Does pay vary according to teacher performance?	S7: 5d; 9c
6. Are all teachers entitled to retirement and health benefits?	S7: 9k-l	
	S8: 2	
C. Are working conditions appealing for talented applicants?	1. How many schools comply with standards for the infrastructure, hygiene and sanitation of schools?	S12: 1a (total); 23a (total)
	2. How many primary school students are there per each teacher?	S12: 22a (primary)
	3. How many secondary school students are there per teacher?	S12: 22a (secondary)
D. Are there attractive career opportunities?	1. Are there opportunities for horizontal promotions for teachers?	S4: 23; 24
	2. Are promotion opportunities linked to performance?	S9: 14c; 21c
3. Preparing Teachers with Useful Training and Experience		

1. Setting Clear Expectations for Teachers		
A. Are there minimum standards for pre-service teaching training programs?	1. Is there an accreditation process for pre-service teacher training programs?	S3: 3
	2. Are there specifications for how much these programs should devote to the teaching of different subjects for primary school teachers?	S3: 9
	3. Are there specifications for how much these programs should devote to the teaching of different subjects for secondary school teachers?	S3: 11
	4. [Only if answer to 3.A.2 was "yes"] In the specifications for primary school teachers, how much time is devoted to pedagogical theory and methods and how much to subject matter knowledge?	S3: 10a-e
	5. [Only if answer to 3.A.3 was "yes"] In the specifications for secondary school teachers, how much time is devoted to pedagogical theory and methods and how much to subject matter knowledge?	S3: 12a-e
B. Are trainee teachers required to have classroom experience to be allowed to teach?	1. Is classroom experience a required part of teacher training for primary school teachers?	S2: 4g
		S3: 15
	2. Is classroom experience a required part of teacher training for secondary school teachers?	S2: 8g
		S3: 17
3. [Only if answer to 3.B.1 was "yes"] How much experience are primary school teachers required to have?	S3: 16	
4. [Only if answer to 3.B.2 was "yes"] How much experience are secondary school teachers required to have?	S3: 18	
C. Do teachers have a smooth transition from pre-service training into their first job?	1. Are new primary school teachers required to participate in induction and/or mentoring programs?	S6: 14a
	2. Are new secondary school teachers required to participate in an induction and/or mentoring programs?	S6: 14b
	3. [Only if answer to 3.C.1 was "yes"] What is the required length of induction and/or mentoring programs for primary school teachers?	S6: 15a

1. Setting Clear Expectations for Teachers		
	4. [Only if answer to 3.C.2 was "yes"] What is the required length of induction and/or mentoring programs for secondary school teachers?	S6: 15b
4. Matching Teachers' Skills with Students' Needs		
A. Are there incentives for teachers to work at hard-to-staff schools?	1. Are teachers entitled to monetary incentives and/or a higher compensation package for working in hard-to-staff schools?	S4: 17b-c
		S7: 5f, 9b
	2. Is teaching experience used in deciding transfer priorities?	S4: 32a
B. Are there incentives for teachers to teach critical shortage subjects?	1. Are there critical shortage subjects?	S4: 19
	2. [Only if answer to 4.B.1 was "yes"] Are teachers entitled to monetary incentives and/or a higher compensation package for teaching critical shortage subjects?	S4: 22b-c
		S7: 5e
5. Leading Teachers with Strong Principals		
A. Are requirements to become a principal set up to attract talented candidates?	1. Are there requirements to become a principal?	S11: 3a-g
	2. [Only if answer to 5.A.1 was "yes"] How many requirements are in place to select principals?	S11: 3a-g
B. Do principals have incentives to perform well?	1. Are principals explicitly required to provide guidance to teachers?	S11: 9g
	2. Are principals evaluated regularly?	S11: 7
	3. Is average principal pay competitive?	S12: 52
		Edstats: GDP per capita
4. Can principals receive monetary incentives for performance?	S11: 6	
C. Can principals make key decisions to improve teaching?	1. Do principals have a say or decide on teacher hiring?	S11: 9a
	2. Do principals have a say or decide on teacher dismissals?	S11: 9b
	3. Do principals have a say or decide on the distribution of time during school hours?	S11: 9f
	4. Do principals decide on teachers' promotions?	S4: 26a-b
6. Monitoring Teaching and Learning		

1. Setting Clear Expectations for Teachers		
A. Are there enough student achievement data to inform teaching?	1. Are there assessments of student learning at any level (international, national, sub-national)?	S1: 15a-b; 17
	2. [Only if answer to 6.A.1 was "yes"] How frequent are assessments of student learning?	S13: 16a-b
	3. [Only if answer to 6.A.1 was "yes"] How many grades do assessments of student learning include?	S13: 16a-b
	4. [Only if answer to 6.A.1 was "yes"] Do national and/or sub-national assessments of student learning cover a sample or all students?	S1: 16a-b
	5. [Only if answer to 6.A.1 was "yes"] In national and sub-national assessments, is it possible to track students over time?	S1: 22
	6. [Only if answer to 6.A.1 was "yes"] In national and sub-national assessments, can students' scores in assessments be matched to individual teachers?	S1: 16a-b
B. Are there enough teacher performance data to inform teaching?	1. Are there teacher evaluations (internal or external)?	S9: 9a-e
	2. [Only if answer to 6.A.2 was "yes"] How frequent are teacher evaluations?	S13 (S9: 11; 18)
	3. [Only if answer to 6.A.2 was "yes"] How many sources do teacher evaluations rely on?	S9: 13; 20
	4. [Only if answer to 6.A.2 was "yes"] How many criteria do evaluations use to assess teaching?	S9: 12a-d, f-k; 19a-d, f-k
	5. [Only if answer to 6.A.2 was "yes"] Are teachers required to participate in evaluations?	S9: 10; 17
	6. [Only if answer to 6.A.2 was "yes"] How many teachers fail their evaluations?	S12: 40-41
	7. [Only if answer to 6.A.2 was "yes"] Is it possible to track teachers over time?	S1: 20a-b
7. Supporting Teachers to Improve Instruction		
A. Are teacher performance data used to improve	1. Are teacher performance evaluations used to inform classroom practice?	S9: 14b; 21b

1. Setting Clear Expectations for Teachers		
teaching?	2. If a teacher obtains an unsatisfactory result in an evaluation, is he or she assigned to a supervisor?	S9: 15b; 22b
	3. Are teacher performance evaluations used to assign professional development?	S9: 15a; 22a
B. Is there professional development to improve practice?	1. Are primary school teachers required to participate in professional development?	S6: 6a
	2. Are secondary school teachers required to participate in professional development?	S6: 6b
	3. How many days of professional development are primary school teachers required to complete?	S6: 8a (days or hours)
	4. How many days of professional development are secondary school teachers required to complete?	S6: 8b (days or hours)
	5. Does professional development include activities other than courses and workshops or education conferences and seminars?	S6: 13
	6. How many aspects related to teaching does professional development include other than school management and administration for primary school teachers?	S6: 10a-f, h
	7. How many aspects related to teaching does professional development include other than school management and administration for secondary school teachers?	S6: 12a-f, h
	8. Are individual teachers responsible for paying for their professional development?	S6: 4e
8. Motivating Teachers to Perform		
A. Are there minimum mechanisms to hold teachers accountable?	1. Are there requirements for primary school teachers to remain in teaching?	S2: 12a-b
	2. Are there requirements for secondary school teachers to remain in teaching?	S2: 13a-b
	3. Can teachers be dismissed for misconduct or child abuse?	S4: 9b-c
	4. Is teacher absenteeism taken into account in teacher performance evaluations?	S9: 12a; 19a
	5. Are there penalties (salary or dismissal) for teacher	S4: 9a

1. Setting Clear Expectations for Teachers		
	absenteeism?	S7: 10
B. Are there rewards for high-performing teachers?	1. Do high-performing teachers get higher salaries (monetary bonuses)?	S9: 16c; 23c
	2. Do high-performing teachers get better chances of promotion?	S9: 16d; 23d
	3. Do high-performing teachers get more public recognition?	S9: 16b; 23b
	4. What share of teachers' salary is affected by performance?	S7: 6d
C. Are there sanctions for low-performing teachers?	1. Is there a mandatory probation period for teachers before they are granted open-ended appointments?	S4: 6
	2. Is information from job performance evaluations used to grant open-ended appointments?	S4: 8d
	3. Are there pay cuts for low-performing teachers?	S9: 15e; 22e
	4. Are job evaluations used to dismiss ineffective teachers?	S9: 15d; 22d

Source: Authors' elaboration.

Note: The codes on the right column refer to the questionnaires and questions in the SABER-Teachers data collection instrument. For example, "S1: 6" means that the data for an indicator is pulled from questionnaire #1, question #6.

Table A.4: Levels of Development by Policy Lever

1. Setting Clear Expectations for Teachers				
Policy Lever	Latent (1)	Emerging (2)	Established (3)	Advanced (4)
A. Are there clear expectations for what students should know and be able to do?	There is no curriculum or standards.	There is a curriculum, but no standards or they only exist at the local level.	There is a curriculum and standards at the sub-national level.	There is a curriculum and standards at the national level.
B. Are there clear expectations for what teachers are supposed to do?	The tasks that teachers are expected to carry out are not stipulated and there are no performance goals for teachers.	The tasks that teachers are expected to carry out are stipulated, but there are no performance goals for teachers.	The tasks that teachers are expected to carry out are stipulated and there are performance goals for teachers.	[It is not possible for a system to be classified as "Mature" in this policy lever.]
C. Do teachers have enough time to fulfill their duties?	The school year is less than 400 hours, there is no statutory definition of working time or it is less than 1000 hours and teaching time is 80% to 100% of working time.	The school year is between 400 and 600 hours, working time is the number of teaching hours, working time is between 1000 and 1520 hours and teaching time is 60% to 79% of working time.	The school year is between 600 and 800 hours, working time is the number of hours teachers spend at school, working time is between 1520 and 1650 hours and teaching time is 50% to 59% of working time.	The school year is more than 800 hours, working time is the number of hours teachers spend at school, working time is between 1520 and 1650 hours and teaching time is less than 50% of working time.
2. Attracting the Best into Teaching				
Policy Lever	Latent (1)	Emerging (2)	Established (3)	Advanced (4)

1. Setting Clear Expectations for Teachers				
Policy Lever	Latent (1)	Emerging (2)	Established (3)	Advanced (4)
A. Are entry requirements set up to attract talented candidates?	There is no established process to screen applicants into pre-service teacher training, 90% or more of applicants enter, there are no requirements to become a teacher and there is only a consecutive model of pre-service teacher training.	There is no established process to screen applicants into pre-service teacher training, 51% to 89% of applicants enter, there are no requirements to become a teacher or if there are, 50% to 69% of teachers meet them, and there is only a consecutive model of pre-service teacher training.	There is an established process to screen applicants into pre-service teacher training, 21% to 50% of applicants enter, there are requirements to become a teacher, 70% to 89% of teachers meet them and there is a concurrent model of pre-service teacher training—either by itself or with a consecutive model.	There is an established process to screen applicants into pre-service teacher training, 20% or less of applicants enter, there are requirements to become a teacher, 90% or more of teachers meet them and there is both a concurrent and an alternative model of pre-service teacher training.
B. Are pay and benefits appealing for talented candidates?	Starting teacher pay is very uncompetitive, pay is disbursed on time less than 6 months in the year, it remains flat over a teacher's career, it is not differentiated by subject, geographic area, grade, student population or teacher performance and not all teachers are entitled to retirement and health benefits.	Starting teacher pay is uncompetitive, pay is disbursed on time 6 to 9 months in the year, it changes little over a teacher's career, it is not differentiated by one factor (subject, geographic area, grade, student population) but does not vary by teacher performance and all teachers are entitled to either retirement or health benefits.	Starting teacher pay is competitive, pay is disbursed on time 10 or more months in the year, it changes moderately over a teacher's career, it is not differentiated by two factors (subject, geographic area, grade, student population) and it varies by teacher performance and all teachers are entitled to both retirement and health benefits.	Starting teacher pay is very competitive, pay is disbursed on time 6 to 9 months in the year, it changes little over a teacher's career, it is not differentiated by one factor (subject, geographic area, grade, student population) but does not vary by teacher performance and all teachers are entitled to either retirement or health benefits.

1. Setting Clear Expectations for Teachers				
Policy Lever	Latent (1)	Emerging (2)	Established (3)	Advanced (4)
C. Are working conditions appealing for talented applicants?	There are no standards for infrastructure, hygiene and sanitation and there are 51 or more students per teacher.	50% to 69% or less of schools comply with standards for infrastructure, hygiene and sanitation and there are 31 to 50 students per teacher.	70% to 89% or less of schools comply with standards for infrastructure, hygiene and sanitation and there are 25 to 30 students per teacher.	90% or more of schools comply with standards for infrastructure, hygiene and sanitation and there are less than 25 students per teacher.
D. Are there attractive career opportunities?	There are no lead-, master-, or head-teacher positions and promotion opportunities are not linked to teacher performance.	There are lead-, master-, or head-teacher positions but promotion opportunities are not linked to teacher performance.	There are lead-, master-, or head-teacher positions and promotion opportunities are linked to teacher performance.	[It is not possible for a system to be classified as "Mature" in this policy lever.]
3. Preparing Teachers with Useful Training and Experience				
Policy Lever	Latent (1)	Emerging (2)	Established (3)	Advanced (4)
A. Are there minimum standards for pre-service teaching training programs?	There is no accreditation process for pre-service teacher training programs, no specification for how much these programs should devote to the teaching of different subjects.	There is no accreditation process for pre-service teacher training programs, no specification for how much these programs should devote to the teaching of different subjects, or if there are, hours devoted to pedagogy are the same as hours devoted to subject matter.	There is no accreditation process for pre-service teacher training programs, there are specification for how much these programs should devote to the teaching of different subjects and hours devoted to pedagogy are less than hours devoted to subject matter.	[It is not possible for a system to be classified as "Mature" in this policy lever.]
B. Are trainee teachers required to have classroom experience to be allowed to teach?	Teaching experience is not required to enter the profession and it is not part of teacher training.	Teaching experience is not required to enter the profession and it is not part of teacher training, or if it is, less than 6 months of experience is required.	Teaching experience is not required to enter the profession and/or it is part of teacher training, and 7 to 8 months of experience is required.	Teaching experience is not required to enter the profession and/or it is part of teacher training, and 1 year or more of experience is required.

1. Setting Clear Expectations for Teachers				
Policy Lever	Latent (1)	Emerging (2)	Established (3)	Advanced (4)
C. Do teachers have a smooth transition from pre-service training into their first job?	New teachers are not required to participate in induction and/or mentoring programs.	New teachers are not required to participate in induction and/or mentoring programs, or if there are, these programs are supposed to last less than 6 months.	New teachers are required to participate in induction and/or mentoring programs and these programs are supposed to last 6 to 11 months.	New teachers are required to participate in induction and/or mentoring programs and these programs are supposed to last 1 year or more.
4. Matching Teachers' Skills with Students' Needs				
Policy Lever	Latent (1)	Emerging (2)	Established (3)	Advanced (4)
A. Are there incentives for teachers to work at hard-to-staff schools?	Teachers are not entitled to monetary incentives or a higher compensation package for working in hard-to-staff schools and teaching experience is used in deciding teaching priorities.	Teachers are entitled to either monetary incentives or a higher compensation package for working in hard-to-staff schools but teaching experience is used in deciding teaching priorities.	Teachers are entitled to either monetary incentives or a higher compensation package for working in hard-to-staff schools and teaching experience is not used in deciding teaching priorities.	Teachers are entitled to both monetary incentives and a higher compensation package for working in hard-to-staff schools and teaching experience is not used in deciding teaching priorities.
B. Are there incentives for teachers to teach critical shortage subjects?	There are no critical shortage areas.	There are critical shortage areas, but teachers are not entitled to monetary incentives and/or higher compensation for teaching them.	There are critical shortage areas and teachers are entitled to either monetary incentives or higher compensation for teaching them.	There are critical shortage areas and teachers are entitled to both monetary incentives and higher compensation for teaching them.
5. Leading Teachers with Strong Principals				
Policy Lever	Latent (1)	Emerging (2)	Established (3)	Advanced (4)
A. Are requirements to become a principal set up to attract talented candidates?	There are no requirements to become a principal.	There are requirements to become a principal, but only one process is in place to select principals.	There are requirements to become a principal and two processes are in place to select principals.	There are requirements to become a principal and three or more processes are in place to select principals.

1. Setting Clear Expectations for Teachers				
Policy Lever	Latent (1)	Emerging (2)	Established (3)	Advanced (4)
B. Do principals have incentives to perform well?	Principals are not explicitly required to provide guidance to teachers, they are not evaluated regularly, average pay is very uncompetitive and they cannot receive monetary incentives for performance.	Principals are not explicitly required to provide guidance to teachers, they are not evaluated regularly, average pay is uncompetitive and they cannot receive monetary incentives for performance.	Principals are explicitly required to provide guidance to teachers, they are evaluated regularly, average pay is competitive or very competitive and they can receive monetary incentives for performance.	[It is not possible for a system to be classified as "Mature" in this policy lever.]
C. Can principals make key decisions to improve teaching?	Principals do not have a say on teacher hiring, teacher dismissals, the distribution of time during school hours or teacher promotions.	Principals have a say on two of four aspects: teacher hiring, teacher dismissals, the distribution of time during school hours or teacher promotions.	Principals have a say on teacher hiring, teacher dismissals, the distribution of time during school hours and teacher promotions.	[It is not possible for a system to be classified as "Mature" in this policy lever.]
6. Monitoring Teaching and Learning				
Policy Lever	Latent (1)	Emerging (2)	Established (3)	Advanced (4)
A. Are there enough student achievement data to inform teaching?	There are no assessments of student learning at any level.	There is at least one type of assessment of student learning, it takes place every 4-5 years, it assesses at least one grade or more in either primary or secondary, all exams are sample-based, it is not possible to track students over time, but it is possible to match students' scores to individual teachers.	There is more than one type of assessment of student learning, they take place every 2-3 years, they assess one grade in each primary and secondary, some exams are sample-based, others are census-based and it is possible to track students over time and to match students' scores to individual teachers.	There is more than one type of assessment of student learning, they take place annually, they assess three grades or more covering both primary and secondary, most exams are sample-based and it is possible to track students over time and to match students' scores to individual teachers.

1. Setting Clear Expectations for Teachers				
Policy Lever	Latent (1)	Emerging (2)	Established (3)	Advanced (4)
B. Are there enough teacher performance data to inform teaching?	There are no teacher evaluations (internal or external).	There are teacher evaluations, they occur every 4 to 5 years, they rely on 3 sources, they use one criterion, teachers are not required to participate in evaluations, less than 5% of teachers fail their evaluations, but it is not possible to track teachers over time.	There are teacher evaluations, they occur every 2 to 3 years, they rely on 4 sources, they use two criteria, teachers are required to participate in evaluations, at least 5% of teachers fail their evaluations and it is possible to track teachers over time.	There are teacher evaluations, they occur at least annually, they rely on 5 or more sources, they use three or more criteria, teachers are required to participate in evaluations, at least 5% of teachers fail their evaluations and it is possible to track teachers over time.
7. Supporting Teachers to Improve Instruction				
Policy Lever	Latent (1)	Emerging (2)	Established (3)	Advanced (4)
A. Are teacher performance data used to improve teaching?	There are either no teacher performance data or, if there are, teacher performance evaluations are not used to inform classroom practice, teachers rated as ineffective are not assigned to a supervisor and evaluations are not used to assign teachers to professional development.	Teacher performance evaluations are used for two of these purposes: to inform classroom practice, to assign teachers rated as ineffective to a supervisor and/or to assign teachers to professional development.	Teacher performance evaluations are used to inform classroom practice, to assign teachers rated as ineffective to a supervisor and to assign teachers to professional development.	[It is not possible for a system to be classified as "Mature" in this policy lever.]

1. Setting Clear Expectations for Teachers				
Policy Lever	Latent (1)	Emerging (2)	Established (3)	Advanced (4)
B. Is there professional development to improve practice?	Teachers are not required to participate in professional development, there is no specification for how many days of professional development teachers are expected to complete, professional development includes 1 non-traditional type of activity, it focuses on school management and administration and teachers are responsible for paying all of the costs of professional development.	Teachers are not required to participate in professional development for 1 to 5 days, professional development includes 2 non-traditional types of activities, it focuses on 1 to 2 aspects other than school management and administration but teachers are responsible for paying for all of the costs of their professional development.	Teachers are required to participate in professional development for 6 to 9 days, professional development includes 3 to 4 non-traditional types of activities, it focuses on 3 to 4 aspects other than school management and administration and teachers are responsible for paying for some of the costs of their professional development.	Teachers are required to participate in professional development for 10 or more days, professional development includes 5 or more non-traditional types of activities, it focuses on 5 or more aspects other than school management and administration and teachers are responsible for paying for none of the costs of their professional development.
8. Motivating Teachers to Perform				
Policy Lever	Latent (1)	Emerging (2)	Established (3)	Advanced (4)
A. Are there minimum mechanisms to hold teachers accountable?	There are no requirements to remain in teaching, teachers cannot be dismissed for misconduct or child abuse, teacher absenteeism is not taken into account in performance evaluations and there are no penalties for teacher absenteeism.	There are no requirements to remain in teaching, teachers can be dismissed for either misconduct or child abuse, teacher absenteeism is not taken into account in performance evaluations and there are no penalties for teacher absenteeism.	There are requirements to remain in teaching, teachers can be dismissed for both misconduct and child abuse, teacher absenteeism is taken into account in performance evaluations and there are penalties for teacher absenteeism.	[It is not possible for a system to be classified as "Mature" in this policy lever.]

1. Setting Clear Expectations for Teachers				
Policy Lever	Latent (1)	Emerging (2)	Established (3)	Advanced (4)
B. Are there rewards for high-performing teachers?	High-performing teachers do not get monetary bonuses or higher salaries, better chances of promotion or more public recognition.	High-performing teachers get two of the following: monetary bonuses or higher salaries, better chances of promotion and/or more public recognition.	High-performing teachers get monetary bonuses or higher salaries, better chances of promotion and more public recognition.	[It is not possible for a system to be classified as "Mature" in this policy lever.]
C. Are there sanctions for low-performing teachers?	There is no mandatory probation period for teachers before they are granted open-ended appointments and job performance is not used to grant open-ended appointments, pay cuts or to dismiss ineffective teachers.	There are two of the following: mandatory probation period for teachers before they are granted open-ended appointments, use of job performance to grant open-ended appointments, pay cuts or to dismiss ineffective teachers.	There is a mandatory probation period for teachers before they are granted open-ended appointments and job performance is used to grant open-ended appointments, pay cuts and to dismiss ineffective teachers.	[It is not possible for a system to be classified as "Mature" in this policy lever.]

Source: Authors' elaboration.