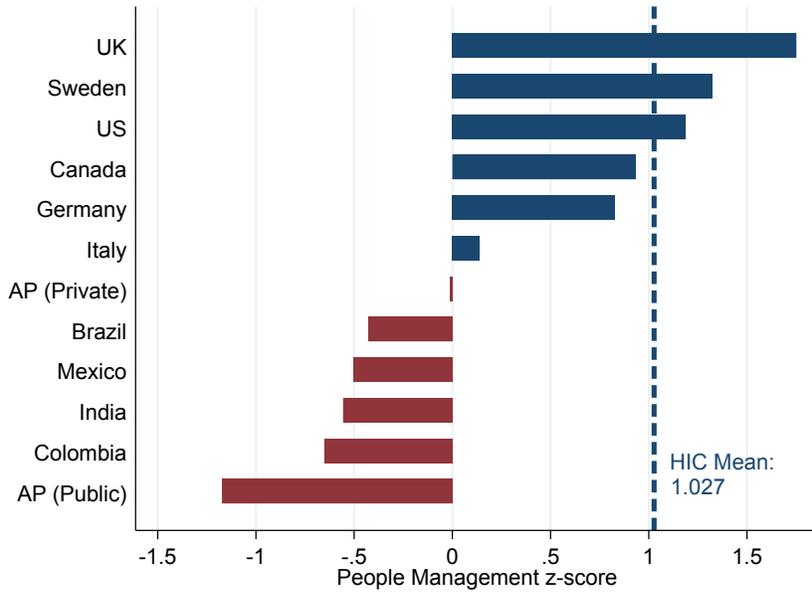


ONLINE APPENDIX
“Personnel Management and School Productivity: Evidence from India,”
January 4, 2021

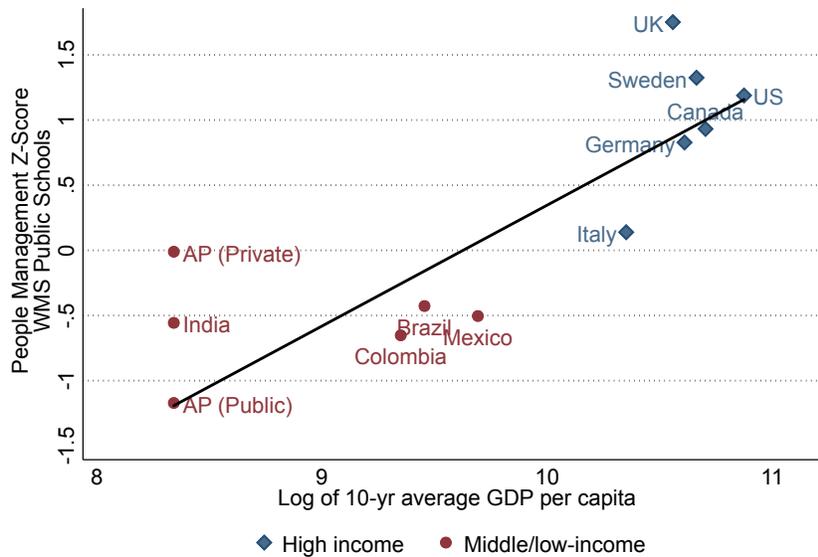
A Additional figures and tables

Figure A1: Global benchmarks

(a) Rank of comparable people management z-scores



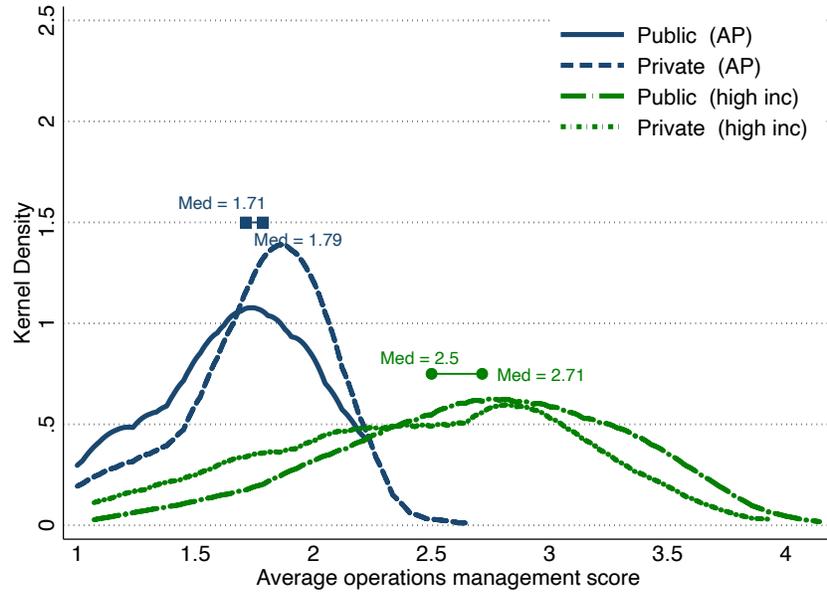
(b) Comparable management z-scores and GDP per capita



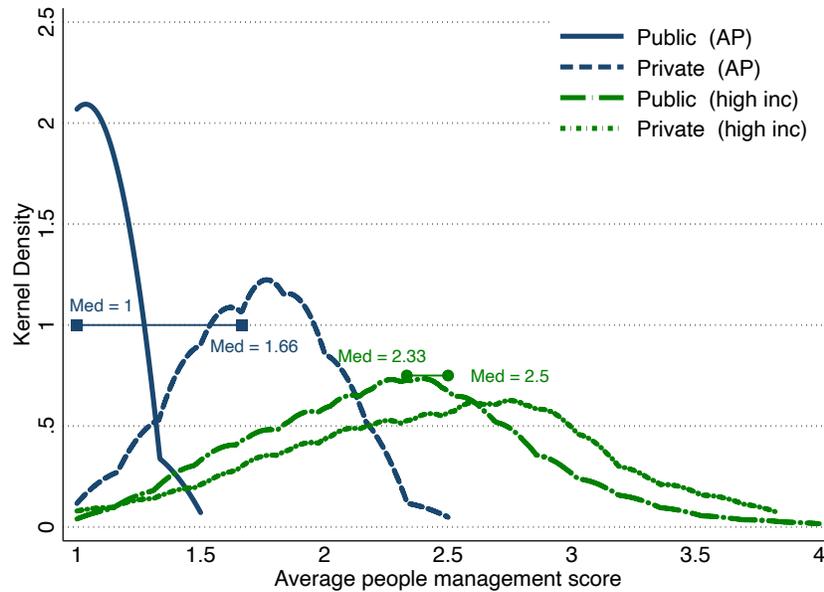
Note: This figure includes only public secondary schools from the WMS dataset (UK, Canada, Sweden, US, Germany, Italy, Brazil and India) and public primary schools from the Development WMS dataset (Andhra Pradesh, Mexico and Colombia). The Development WMS scores were re-scaled to match the WMS scoring convention: all half points were downgraded to the next lowest whole point for each survey question (for example, all scores of 2.5 were re-cast to 2) before indices were built. Data for the WMS for all countries except for Mexico and Colombia can be found at www.worldmanagementsurvey.org. Distribution of overall management indices standardized within countries. Country averages for all other countries were estimated using sampling weights (see Appendix B for details on the weights construction). Number of WMS observations are as follows: Brazil = 373, Canada = 113, Colombia = 447, Great Britain = 78, Germany = 91, India = 130, Italy = 222, Mexico = 178, Sweden = 85, United States = 193. The 10-year average GDP per capita comes from www.imf.org world tables, and include 2008-2018. We used India's GDP as a stand-in for Andhra Pradesh's GDP in Panel (b).

Figure A2: Difference between across public and private: India vs OECD

(a) Operations management



(b) People management



Note: This figure includes only public secondary schools from the WMS dataset (UK, Canada, Sweden, US, Germany, Italy) and public primary schools from the Development WMS dataset (Andhra Pradesh). The Development WMS scores were re-scaled to match the WMS scoring convention: all half points were downgraded to the next lowest whole point for each survey question (for example, all scores of 2.5 were re-cast to 2) before indices were built. Data for the WMS for all high income countries can be found at www.worldmanagementsurvey.org. Country averages for WMS countries were estimated using sampling weights (see Appendix B for details on the weights construction). Number of WMS observations are as follows: Brazil = 510, Canada = 129, Colombia = 468, Great Britain = 89, Germany = 102, Italy = 284, Mexico = 157, Sweden = 85, United States = 263. Number of AP observations = 300. Squares mark the median point of the AP distributions, and circles mark the median points of the high-income countries distribution.

Table A1: Public and private schools are different on observables

	(1) Private schools	(2) Public schools	(3) Difference	(4) Table reference
Panel A: School characteristics				
Total enrollment	296.21	74.04	222.17***	Table 3
Total working days	229.81	218.66	11.15***	Table 3
Pupil-teacher ratio	17.62	25.28	-7.67***	Table 3
Observations	289	346		
Annual cost per child (Rs/child)	1,848.88	8,390.00	-6,542***	Table 3
Observations	211	325		
Student time spent in school (minutes)	423.53	380.25	43.28***	Table 4
Observations	652	1,839		
Multi-grade teaching	0.24	0.79	-0.55***	Table 5
Observations	2,738	2,784		
Panel B: Teacher characteristics				
Male	0.24	0.46	-0.21***	Table 3
Age	27.58	40.00	-12.42***	Table 3
Years of teaching	5.14	14.96	-9.82***	Table 3
Completed at least college or masters	0.69	0.88	-0.19***	Table 3
Teacher training completed	0.34	0.99	-0.65***	Table 3
Come from the same village	0.44	0.13	0.32***	Table 3
Current gross salary per month (Rs)	2,606.66	14,285.94	-11,679.27***	Table 3
Observations	2,000	1,358		
Teacher is absent	0.09	0.24	-0.15***	Table 4
Teacher is actively teaching	0.50	0.35	0.15***	Table 4
Observations	6,577	5,552		

Notes: Table reproduced from [Muralidharan and Sundararaman \(2015\)](#), Tables 3, 4 and 5.

Table A2: Correlates of management quality: teacher and student observables

	Public			Private		
	(1) z-mgmt	(2) z-ops	(3) z-people	(4) z-mgmt	(5) z-ops	(6) z-people
Student characteristics						
Share female	0.246 (0.696)	0.301 (0.840)	0.062 (0.373)	-0.318 (0.834)	-0.259 (0.899)	-0.324 (0.536)
Share scheduled caste	0.156 (0.414)	0.225 (0.518)	-0.024 (0.197)	3.405*** (0.749)	3.526*** (0.813)	2.043*** (0.513)
Share literate parents	0.968** (0.455)	1.145** (0.555)	0.315 (0.219)	-0.793 (0.646)	-0.920 (0.698)	-0.291 (0.404)
Share laborer parents	-1.379*** (0.456)	-1.592*** (0.565)	-0.522** (0.231)	-1.446* (0.750)	-1.470* (0.834)	-0.917** (0.427)
Average household assets index	-0.264 (0.261)	-0.290 (0.319)	-0.127 (0.111)	0.342 (0.307)	0.376 (0.333)	0.164 (0.201)
Teacher characteristics						
Share with a degree	1.133** (0.566)	1.330* (0.678)	0.387 (0.307)	0.310 (0.236)	0.344 (0.261)	0.142 (0.150)
Share with teacher training	0.070 (0.543)	-0.002 (0.671)	0.182 (0.203)	0.160 (0.203)	0.180 (0.222)	0.069 (0.133)
Average teaching experience	-0.009 (0.035)	-0.005 (0.042)	-0.015 (0.017)	-0.015 (0.032)	-0.014 (0.037)	-0.013 (0.015)
Average # workdays	-0.008 (0.009)	-0.011 (0.011)	-0.000 (0.004)	0.003 (0.006)	0.003 (0.006)	0.002 (0.003)
Head teacher teaching experience	0.031 (0.041)	0.035 (0.050)	0.012 (0.019)	0.020 (0.037)	0.018 (0.041)	0.019 (0.022)
Head teacher has degree	-1.042** (0.515)	-1.269** (0.621)	-0.271 (0.260)	0.557 (0.368)	0.582 (0.398)	0.325 (0.235)
School characteristics						
School size (# students)	-0.246 (0.156)	-0.271 (0.190)	-0.118 (0.075)	0.337*** (0.079)	0.340*** (0.086)	0.219*** (0.053)

Notes: Standard errors are clustered by school. z-mgmt is the overall standardized management score. z-ops is the standardized index of operations questions and z-people is the standardized index of people management questions. Headteacher refers to the teacher formally appointed as headteacher or the most senior teacher at the school.

Table A3: Residualized school management practices and student value added

	Public schools			
	(1) student value added	(2) student value added	(3) student value added	(4) student value added
z-management (residual)	0.168*** (0.047)			
z-operations (residual)		0.130*** (0.040)		0.080* (0.046)
z-people (residual)			0.334*** (0.096)	0.224** (0.107)
Observations	7157	7157	7157	7157
# schools	109	109	109	109
	Private schools			
	(1) student value added	(2) student value added	(3) student value added	(4) student value added
z-management (residual)	0.046 (0.034)			
z-operations (residual)		0.026 (0.030)		-0.026 (0.040)
z-people (residual)			0.127** (0.052)	0.154** (0.066)
Observations	28807	28807	28807	28807
# schools	190	190	190	190
	Public and private schools			
	(1) student value added	(2) student value added	(3) student value added	(4) student value added
Private (residual)	0.414*** (0.089)	0.475*** (0.088)	0.221** (0.104)	0.253** (0.116)
Scholarship (residual)	-0.283*** (0.079)	-0.277*** (0.079)	-0.298*** (0.075)	-0.296*** (0.076)
z-management (residual)	0.091*** (0.029)			
z-operations (residual)		0.070*** (0.026)		0.023 (0.034)
z-people (residual)			0.167*** (0.041)	0.142*** (0.052)
Observations	35964	35964	35964	35964
# schools	299	299	299	299

Notes: Standard errors are clustered by school. The dependent variable student value added is estimated by using the residuals of a regression of the endline test score on the baseline test score for each student. All specifications include year and subject dummies. The management scores are: z-management is the standardized average of the z-scores of each individual management practice. z-operations and z-people are the standardized average of the z-scores of each individual management practice relating to operations and people, respectively. All management scores are residualized on the full set of controls. Controls include those listed in Table 2.

Table A4: School management practices and student value added in each type of school
(lagged test score specification)

Panel A:		Public schools				Private schools			
No controls	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
	endline score	endline score	endline score	endline score	endline score	endline score	endline score	endline score	
z-management	0.183*** (0.037)				0.041 (0.028)				
z-operations		0.143*** (0.032)		0.078* (0.041)		0.028 (0.026)		-0.018 (0.035)	
z-people			0.381*** (0.069)	0.264*** (0.090)			0.099** (0.041)	0.119** (0.056)	
Lagged test score	0.451*** (0.040)	0.451*** (0.040)	0.463*** (0.041)	0.455*** (0.041)	0.306*** (0.019)	0.307*** (0.019)	0.304*** (0.019)	0.304*** (0.019)	
Observations	7157	7157	7157	7157	28807	28807	28807	28807	
# schools	109	109	109	109	190	190	190	190	
Panel B:		Public schools				Private schools			
With controls	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
	endline score	endline score	endline score	endline score	endline score	endline score	endline score	endline score	
z-management	0.170*** (0.045)				0.042 (0.028)				
z-operations		0.132*** (0.037)		0.083** (0.040)		0.022 (0.025)		-0.029 (0.033)	
z-people			0.336*** (0.087)	0.223** (0.097)			0.124*** (0.041)	0.153*** (0.055)	
Lagged test score	0.444*** (0.040)	0.443*** (0.040)	0.456*** (0.040)	0.448*** (0.040)	0.293*** (0.018)	0.295*** (0.018)	0.290*** (0.018)	0.290*** (0.018)	
Observations	7157	7157	7157	7157	28807	28807	28807	28807	
# schools	109	109	109	109	190	190	190	190	

Notes: Standard errors are clustered by school. The dependent variable, student value added, is estimated by using the residuals of a regression of the end-line test score on the baseline test score for each student. z-management is the standardized overall management index. z-operations and z-people are the standardized average scores of the operations questions and people management questions. Controls include those listed in Table 2: **student controls** (indicators for female student, scheduled caste, parents are literate, parents are manual laborers, and a household assets index), **teacher controls** (share of teachers with a degree, share with teacher training, average teaching experience, average number of work days, head teacher teaching experience and head teacher education) and **school controls** (log of number of students, average share of female students, of students from scheduled castes, of literate parents and of laborer parents). Includes subject and year fixed effects.

Table A5: School management practices and student value added — pooled across public and private schools (lagged test score specification)

Panel A: No controls	Public and private schools				
	(1) endline score	(2) endline score	(3) endline score	(4) endline score	(5) endline score
Private = 1	0.353*** (0.059)	0.255*** (0.060)	0.317*** (0.056)	0.061 (0.084)	0.105 (0.099)
Scholarship = 1	-0.245*** (0.079)	-0.259*** (0.080)	-0.253*** (0.082)	-0.278*** (0.075)	-0.274*** (0.076)
z-management		0.090*** (0.025)			
z-operations			0.071*** (0.022)		0.026 (0.030)
z-people				0.162*** (0.037)	0.131*** (0.050)
Lagged test score	0.315*** (0.018)	0.309*** (0.018)	0.310*** (0.018)	0.307*** (0.018)	0.307*** (0.018)
Observations	35964	35964	35964	35964	35964
# schools	299	299	299	299	299
Panel B: with controls	Public and private schools				
	(1) endline score	(2) endline score	(3) endline score	(4) endline score	(5) endline score
Private = 1	0.501*** (0.087)	0.406*** (0.087)	0.467*** (0.085)	0.211** (0.099)	0.241** (0.108)
Scholarship = 1	-0.258*** (0.078)	-0.278*** (0.077)	-0.271*** (0.078)	-0.295*** (0.073)	-0.294*** (0.074)
z-management		0.092*** (0.026)			
z-operations			0.070*** (0.023)		0.022 (0.028)
z-people				0.170*** (0.036)	0.146*** (0.046)
Lagged test score	0.304*** (0.018)	0.298*** (0.018)	0.300*** (0.018)	0.296*** (0.017)	0.296*** (0.017)
Observations	35964	35964	35964	35964	35964
# schools	299	299	299	299	299

Notes: Standard errors are clustered by school. The dependent variable student value added is estimated by using the residuals of a regression of the end-line test score on the baseline test score for each student. z-management is the standardized overall management index. z-operations and z-people are the standardized average scores of the operations questions and people management questions. Private refers to an indicator for private school, and scholarship is an indicator for whether the student received a scholarship in the [Muralidharan and Sundararaman \(2015\)](#) school choice experiment. Controls include those listed in Table 2: **student controls** (indicators for female student, scheduled caste, parents are literate, parents are manual laborers, and a household assets index), **teacher controls** (share of teachers with a degree, share with teacher training, average teaching experience, average number of work days, head teacher teaching experience and head teacher education) and **school controls** (log of number of students, average share of female students, of students from scheduled castes, of literate parents and of laborer parents). Includes subject and year fixed effects.

B Data Appendix

B.1 World Management Survey sampling weights

The World Management Survey average scores used in this paper include survey weights. These are calculated as the inverse probability of being interviewed on log of number of students, public status, and population density by state, province, or NUTS 2 region as a measure of location). Samples include both public and private schools, with the exception of Colombia where data is only available to public primary schools.

B.2 The Development World Management Survey methodology

In original WMS, the survey is administered by highly trained interviewers who ask a series of scripted and unscripted questions until they gather all the information they need to score the practices. The interviewers are generally graduate students in business and economics programs from highly ranked institutions, and undergo a week-long intensive WMS training program. This program teaches them how to ask the WMS questions in open-ended format, and how to arrive at a score that combines the various facets of a manager's answer into one score. In the D-WMS, however, we remove a large portion of the discretion interviewers have by separating the three types of questions and requiring separate scores for each sub-question. This reduces measurement error as the interviewers have an almost-checkbox style grid, and is more appropriate for settings where very high quality interviewers are not available or not feasible due to budget constraints. Below we include all the original WMS topics and the three factors (implementation, usage, monitoring) along with the example questions asked by the interviewers.

B.2.1 Scoring example and interpretation

We use an example to illustrate the type of information included in the interviews and codified in the survey, and how the expansions aid in identifying bottlenecks. On the topic of data-driven student transition to higher grades, principals are asked open-ended questions such as “What type of information about the individual students is available to teachers at the beginning of the academic year?” and “What do you think are the main points of transition/promotion for students and how is this communicated to your teachers?”. Higher scores are awarded to principals who can discuss an array of data relevant in their school and context, and ensure the information is collected regularly, communicated to teachers well, and used to inform student transitions.

For the first factor, implementation, a school would receive a score of 1 if there is no data available. A score of 1.5 means that the school has some limited information for students, and while it may be of lower quality relative to official examinations, still constitutes a better practice than having nothing at all. A score of a 2 means there is some data is available, such as end-of-year examinations and teacher impressions. A score of a 3 means the schools uses a range of data, including results for quarterly, mid-year and end of-the year examinations plus health information, teacher impressions and baseline tests. The score of 2.5 would sit

somewhere in the middle, if the school has a range of academic and behaviour data (an improvement on simply collecting end-of-year examinations or teacher impressions) but not quite a large enough range collected over multiple instances with different instruments.

For the second factor, usage, a score of 1 means that the principal does not understand basic transition points for students (such as progress between units). A score of 1.5 recognizes that the principal has a personal understanding of these points but does not communicate with teachers about these points. A score of 2 means that the principal internalizes the important transition points but also communicates with teachers to build shared understanding, though very informally and infrequently. A score of 2.5 means that this communication is more regular, albeit still informal. For a score of 3 or above, the understanding of critical transitions needs to be formally acknowledged and understood by the principal as well as the main teaching staff.

For the third factor, monitoring, a score of 1 would imply teachers have no knowledge of prior achievement, and thus cannot consider this data in critical transitions. A score of 1.5 means teachers are at least given progress cards, but no real action is taken. A score of 2 means teachers are made aware of past performance and there is an expectation that issues should be addressed, but the approach is unstructured. A score of 2.5 is awarded when there is an informal communication structure in place to link prior teachers and inform critical transition moments. For a score of 3 or above, the school needs to have a process to formally verify student outcomes at critical stages, regularly, and have a structured way to address weaknesses.

Overall, a score of a 3 or below for this topic means performance data is not be recorded systematically with a range of tools that would allow for a more thorough understanding of a student's strengths and weaknesses. Further it is not integrated or easy to use or shared with a range of stakeholders. The importance of the D-WMS for measurement in our context stems from nearly all public schools having scores below 3.

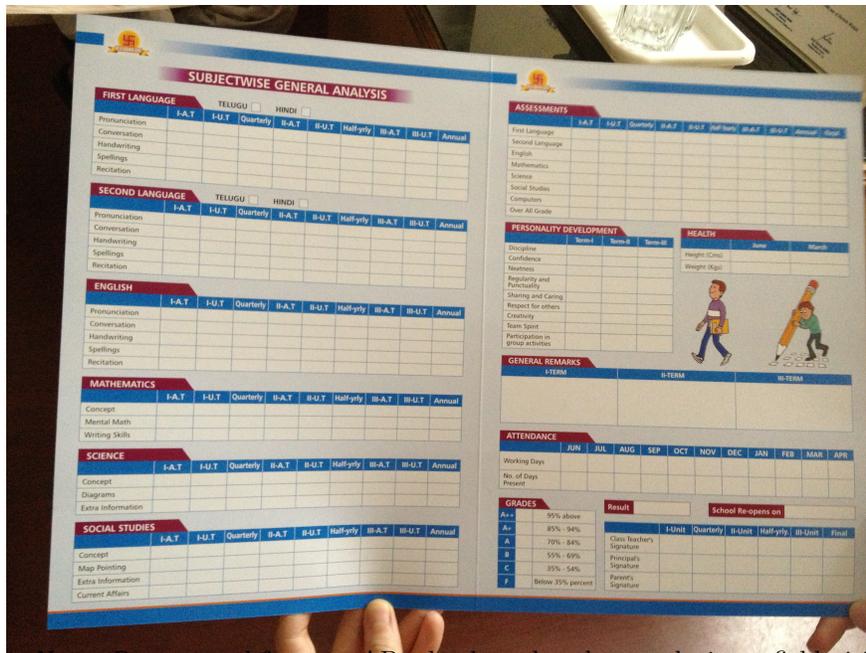
Table B1: Survey questions: Operations management questions

	Process implementation	Process usage	Process monitoring
Topic	Questions		
1. Standardization of Instructional Planning Processes	How do you ensure that all students of a given grade are learning the same topics in the same way within a similar timeframe?	Why did you and the teachers decide on the current curriculum, textbooks and other materials and lesson plans used throughout the year?	How do you keep track of what teachers are doing in the classrooms?
2. Personalization of Instruction and Learning	How much does the school try to identify individual student needs and accommodate these needs within in the classroom?	How do you make sure students and parents are engaged in the students' learning?	How do you keep track of what teachers are doing in the classrooms to ensure that different student needs are taken care of?
3. Data-driven Planning and Student Transitions	What type of information about the individual students is available to teachers at the beginning of the academic year?	What do you think are the main points of transition/promotion for students and how is this communicated to your teachers?	Does the school use any data to consider student promotions through critical transitions (such as grade promotions or unit progressions)?
4. Adopting Educational Best Practices	How do you encourage the teachers to incorporate new teaching practices into the classroom?	How do you make sure the teachers are using the new techniques you are trying to introduce?	By what means and how often are these learnings shared across teachers and subjects and how often?
5. Continuous Improvement	When you have a problem in the school, how do you come to know about them and what are the steps you go through to fix them?	Who is involved in improving/suggesting improvements to the process so these issues do not happen again?	Who is involved in resolving these issues, that is, in deciding what course of action will be taken to resolve the issue?
6. Performance Tracking	What kind of main parameters do you use to track school performance and what documents are you using to inform this tracking?	How often are these main parameters measured?	If I were to walk through your school, how could I tell how it is doing compared to its main parameters?
7. Performance Review	How often do you have meetings to review the parameters?	Who is involved in these meetings and who gets to see the results of these meetings?	After reviewing these parameters, what is the action plan, that is what steps do people take after leaving the meeting?
8. Performance Dialogue	Can you tell me about a recent review meeting you have had?	What kind of data or information about the parameters do you normally have with you?	What type of feedback do you get during these meetings and how do you get to solving the problems raised?
9. Consequence Management	After a review meeting, how are people aware of their responsibilities and actions that must be taken?	How would you make sure this problem does not happen again?	How long does it typically go between when a problem starts and you realize this and start solving it?
10. Balance of Targets/Goal Metrics	What goals do you have set for your school?	Can you tell me about any specific goals for departments, teachers and staff?	How are your school goals linked to student outcomes and to the goals of the school board system (government/ICSE/CBSE)?
11. Interconnection of Targets/Goals	How do you learn of the goals the school system expects of you?	If I were a teacher or another member of the school, what kind of goals would I have?	How do you communicate to your teachers and staff what their goals are?
12. Time Horizon of Targets/Goals	Which goals would you say get the most emphasis?	What kind of time-scale are you looking at with your goals?	Could you meet all your short term goals but miss your long-run goals?
13. Stretch of Targets/Goals	How are your goals benchmarked?	Do you feel that all the departments/areas have goals that are just as hard or would some departments/departments get easier targets?	On average, how often would you say that the school meets their goals?
14. Clarity and Comparability of Goals	What are the goals based on?	If I asked one of the teachers directly about their individual goals, what would they tell me?	How do people know about their own performance when compared to other people's performance?

Table B2: Survey questions: People management questions

	Process implementation formulating, adopting and putting into effect management practices	Process usage carrying out and using management practices frequently and efficiently	Process monitoring monitoring the appropriateness and efficient use of management practices
Topic	Questions		
1. Building a High Performance Culture/ Rewarding High Performers	Can you tell me about the criteria that you use in your appraisal (evaluation) system?	What types of monetary or non-monetary rewards are given to teachers and how are these linked to the ranking teachers get?	By what means and how often do you evaluate and rate your teachers?
2. Making Room for Talent/ Removing Poor Performers	What criteria do you use and how often do you identify your worst teachers?	If you had a teacher who is struggling or who could not do their job properly, what would you do? What if you had a teacher who would not do their job, as in slacking off, what would you do then?	How long does it take to address the issue once you come to know that a teacher is performing badly?
3. Promoting High Performers	What criteria do you use and how often do you identify your best teachers?	What types of career and teacher development opportunities are provided?	How do you make decisions about promotion/progression of teachers and additional opportunities within the school, such as performance, years of service, etc.?
4. Managing Talent	Who decides how many and which teachers (full-time regular members of staff) to hire?	Where do you seek out and find teachers and how do you ensure you have the teachers you need for the subjects you have?	How do you decide which teachers should be hired?
5. Retaining talent	When one of your best teachers wants to leave the school, what do you do?	Could you give me an example of what you would be able to offer to try and keep that best teacher in your school?	How would you know if your best teachers are happy working in this school?
6. Creating a Distinctive Employee Value Proposition	What are the professional benefits of working at your school?	How do teachers come to know that working at your school is better than others?	How do you check to see if teachers are aware of the benefits of working at your school?

Figure B1: Sample report card from an AP school



Note: Report card from an AP school produced to us during a field visit.

B.3 Teacher classroom practices

We use a set of fourteen indicators related to classroom practices in self-reported teacher questionnaires administered to all teachers by enumerators, along with two indicators in audit data from classroom observation visits. These were collected independent of the student tests and the D-WMS management survey.

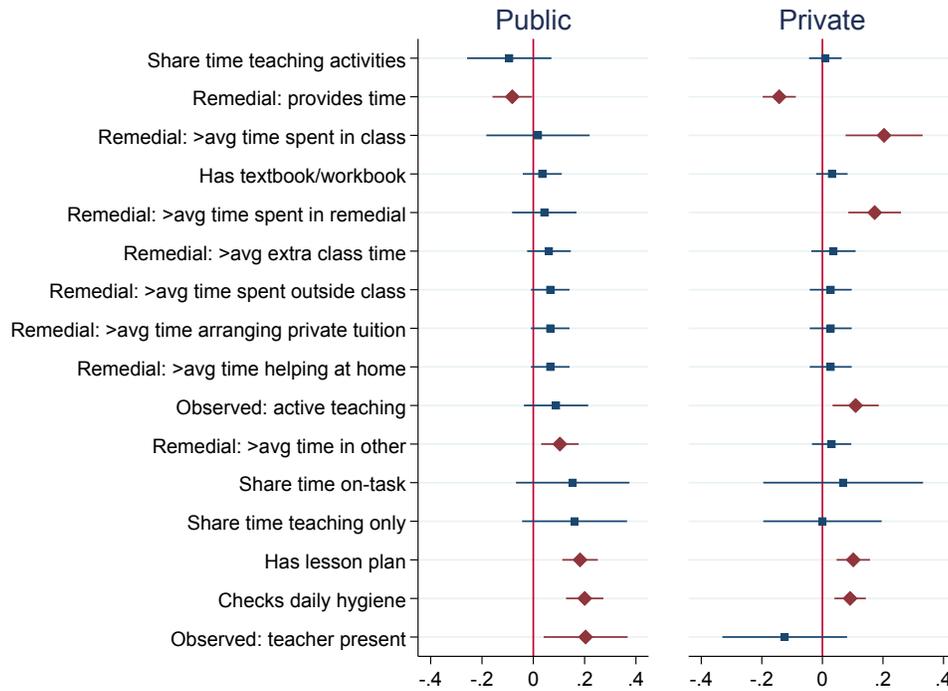
Survey questions: The fourteen self-reported indicators include information on classroom preparedness (teacher makes lesson plans, has textbook and/or workbook, checks hygiene daily), time spent teaching (the % time teaching, % time on teaching activities, % time “on task”), and time spend on remedial activities (time spent on remedial activities as well as above average time spent remedial attention in class, outside class, helping arrange private tuition, helping at home, and other type of help). The two audit indicators include whether the teacher was present in the school and whether they were actively teaching in class. We describe each teacher practice and how it is coded below.

Index construction: We aggregated all sixteen items into a single index using the [Anderson \(2008\)](#) method. This methodology weights the impact of the included variables by the sum of their row in the inverse variance-covariance matrix, thereby assigning greater weight to questions that carry more “new information”. [Figure B2](#) shows the correlation between each individual teacher practice we have in our survey and student value added. We included all practices in our index.

Table B3: Teacher practices index

Variable	Question	Coding
Has lesson plan	Do you prepare a lesson plan (teaching plan) before teaching? (1) Yes, (2) No	= 1 if (1)
Has text-book/workbook	Do you have a copy of the textbook for each class you teach? Do you have a copy of the workbook for each class you teach? For each question: (1) All, (2) Some, (3) None	= 1 if (1) in both questions
Checks daily hygiene	How often are the children observed for health/hygiene related habits, like cleanliness of nails, teeth and washing hands before meals, of the children by you? (1) Daily, (2) Few times a week, (3) Few times a month, (4) Few times a year, (5) Never	= 1 if (1)
Share time teaching activities	How much time do you spend in a typical day on each of the following activities? (A) Teaching Activity, (B) Preparing for Classes, (C) Correcting Homework, (D) Maintaining Order and Discipline, (E) Administrative/Paper work, (F) Breaks during School, (G) Getting children to attend school, (H) Mid-day meals, (I) Extra Classes, (J) Others	share of total time spent in (A), (B), (C), and (I).
Share time on task	How much time do you spend in a typical day on each of the following activities? (A) Teaching Activity, (B) Preparing for Classes, (C) Correcting Homework, (D) Maintaining Order and Discipline, (E) Administrative/Paper work, (F) Breaks during School, (G) Getting children to attend school, (H) Mid-day meals, (I) Extra Classes, (J) Others	share of total time spent in (B), (C), (I)
Share time teaching only	How much time do you spend in a typical day on each of the following activities? (A) Teaching Activity, (B) Preparing for Classes, (C) Correcting Homework, (D) Maintaining Order and Discipline, (E) Administrative/Paper work, (F) Breaks during School, (G) Getting children to attend school, (H) Mid-day meals, (I) Extra Classes, (J) Others	share of total time spent in (A)
Remedial time attention	Do you get time to provide remedial teaching to the students? (1) Yes, (2) No	= 1 if (1)
Time spent in remedial attention:	Do you get time to provide remedial teaching to the students?	
... taking extra class time	If yes, mention time in hours per week for this topic	= 1 if time spent is above average of distribution
... paying extra attention in the class itself	If yes, mention time in hours per week for this topic	= 1 if time spent is above average of distribution
... paying extra attention outside the class	If yes, mention time in hours per week for this topic	= 1 if time spent is above average of distribution
... help children by arranging private tuition	If yes, mention time in hours per week for this topic	= 1 if time spent is above average of distribution
... helping children in studies at home	If yes, mention time in hours per week for this topic	= 1 if time spent is above average of distribution
... others	If yes, mention time in hours per week for this topic	= 1 if time spent is above average of distribution
Observed: Teaching	Active What is the teacher doing when you look for him/her? (A) Actively Teaching or engaged with the children, (B) Passive teaching, (C) In the class, but not teaching, (D) Out of class, and not teaching, (E) Doing administrative/ paper work, (F) Talking to/accompanying the MC, (G) Cannot find the teacher (absent)	= 1 if (A)
Observed: Present	Teacher What is the teacher doing when you look for him/her? (A) Actively Teaching or engaged with children, (B) Passive teaching, (C) In the class, but not teaching, (D) Out of class, and not teaching, (E) Doing administrative/ paper work, (F) Talking to/accompanying the MC, (G) Cannot find the teacher (absent) =0 if (G), =1 otherwise	= 1 if (A)

Figure B2: Coefficient plot: teacher practices and correlation with student value added



Note: This figure plots the coefficient of the simple relationship between each teaching practice and average student value added (SVA). SVA for each student is the residual from a regression of endline test score on baseline test scores for all years of available APSC data. The data is collapsed at the school-teacher-year level, such that each teacher is assigned an average of their students' value added for each year. The coefficients reported here are from a simple regression of each practice on student value added within each type of school (public on the left panel and private on the right panel), clustering standard errors at the school level. Statistically significant coefficients at the 90 percent level are marked in red diamonds, while coefficients that are not statistically significant are marked by blue squares.