# ONLINE APPENDIX

Understanding school management with public data: A new measurement approach and application

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# A Theoretical Framework

## A.1 Model

We focus on a teacher who must decide whether to accept a job offer in her assigned public school, or decline it and apply to a private school or the outside sector. The teacher is risk neutral and cares about her compensation $w$ and effort $e$. When working in the education sector, the teacher's preferences are $w - (e^2 - c\,e)$. The parameter $c$ captures her *intrinsic motivation*. This is because for $e < c/2$ she derives a marginal benefit from exerting an extra unit of effort in teaching; it is only when $e > c/2$ that effort costs kick in. We assume that $c = \tau + \Delta$. The first component $\tau$ denotes the teacher's baseline intrinsic motivation. This can be thought of as the realization of a random variable. The teacher observes this realization perfectly, while (at the time of hiring) employers observe nothing. The second component $\Delta$ is a motivational increment that is determined by the management practices in the teacher's chosen school. When working in the other sector, the teacher's preferences are simply $w - e^2$; intrinsic motivation plays no role. We abstract from student heterogeneity and focus on a representative household (student plus parents). This household cares only about its effort level $a$, and has preferences $-(a^2 - \gamma\,a)$. The parameter $\gamma$ is a motivational increment that is also determined by management practices.

Let $y_1$ denote a representative student's learning outcome in a school that hires the teacher, and $y_0$ denote a representative student's learning outcome in a school that does not hire the teacher. To the extent that teachers contribute to learning, one would expect $y_1 > y_0$. We capture this in a simple way by assuming $y_1 = \theta e + a + \varepsilon$ and $y_0 = a + \varepsilon$. If the teacher is not hired by a school but instead chooses to work in the outside sector, her performance is $z = \theta e + \varepsilon$. The component $\theta$ denotes the teacher's *ability*. This can also be thought of as the realization of a random variable, assumed to be independent of $\tau$. The teacher observes this realization perfectly, while (at the time of hiring) employers observe nothing. Draws of the error term $\varepsilon$ are independent across employments. We assume throughout that $\varepsilon$ is mean zero and distributed $U\,[\underline{\varepsilon}, \bar{\varepsilon}]$.

Public schools offer a wage of $G$. Private schools offer a base wage of $W$ plus a bonus $B$ if the teacher's performance exceeds a threshold $\bar{y}$. The outside sector offers a low base wage (normalized to zero) and a bonus $\beta$ if performance exceeds a threshold $\bar{z}$.

We assume that management has three effects. The first relates to teacher motivation: good management practices enable managers to cultivate the intrinsic motivation of their

staff, increasing $\Delta$. The second relates to compensation: good management practices free up resources and enable managers to offer a higher level of pay (potentially in hedonic form). The third relates to household effort: good management practices help to create a stimulating environment for students and parents, increasing $\gamma$. Our interest lies in establishing how these three effects translate into student learning. We do not model the government's assignment rule, or the school principal's choice of management practices. For simplicity, we classify schools as either high or low management. In a high management school, $\Delta$, base pay, and $\gamma$ are all higher than in a low management school. Below is a summary of this description of the model.

1. Nature chooses the teacher's two-dimensional type. This realization $(\tau, \theta)$ is observed by the teacher but not by employers.

2. Employers announce management practices and compensation schemes.

3. The teacher is assigned (by government) to a public school and decides whether to accept this post or decline it and apply either to a private school or the outside sector.

4. Having made an occupational choice, the teacher chooses an effort level. Simultaneously, if the teacher is in the education sector, households choose effort levels.

5. A performance metric is realized. The teacher is rewarded in accordance with the compensation scheme announced at Stage 2.

## A.2 Analysis

We first present a result that establishes effort levels in high and low management public schools, high management private schools, and the outside sector.

**Lemma 1.** *Assume that the government assigns the teacher to public school $i = L, H$.*

1. *If the teacher accepts the government's offer, then she exerts effort $e^i = \frac{\tau+\Delta^i}{2}$.*

2. *If the teacher declines the government's offer and is hired by a high management private school, then she exerts effort $e^P = \frac{\theta\, B}{2(\overline{\varepsilon}-\underline{\varepsilon})} + \frac{\tau+\Delta^H}{2}$.*

3. *If the teacher declines the government's offer and is hired by an outside employer, then she exerts effort $e^O = \frac{\theta\, \beta}{2(\overline{\varepsilon}-\underline{\varepsilon})}$.*

*Proof.* Part 1. When working in public school $i$, a teacher with baseline motivation $\tau$ chooses effort to solve

$$\max_e \; G - (e^2 - (\tau + \Delta^i) \cdot e).$$

Differentiation to obtain the first order condition yields the solution stated above. (Here, as in the cases below, the second order condition necessary for a maximum holds.)

Part 2. When working in a high management private school, a teacher with baseline motivation $\tau$ and ability $\theta$ chooses effort to solve

$$\max_{e} \; P \cdot B + W - (e^2 - (\tau + \Delta^H) \cdot e)$$

where $P$ is the probability that $y_1^H$ exceeds the threshold $\bar{y}$ given teacher and household effort. Using the uniform distribution for $\varepsilon$, we can rewrite this probability as

$$P = \Pr\left(\theta\ e + a + \varepsilon > \bar{y}\right) = \Pr\left(\theta\ e + a - \bar{y} > -\varepsilon\right) = \frac{\overline{\varepsilon} + \theta\ e + a - \bar{\bar{y}}}{\overline{\varepsilon} - \underline{\varepsilon}}.$$

The first order condition for this optimization problem is

$$\frac{\theta\ B}{\overline{\varepsilon} - \underline{\varepsilon}} = 2e - (\tau + \Delta^H),$$

which yields the solution stated above.

Part 3. When working in the outside sector, a teacher chooses effort to solve

$$\max_{e} \; P^O \cdot \beta - e^2,$$

where $P^O$ is the probability that $z$ exceeds the threshold $\bar{z}$ given effort. We can rewrite this probability as

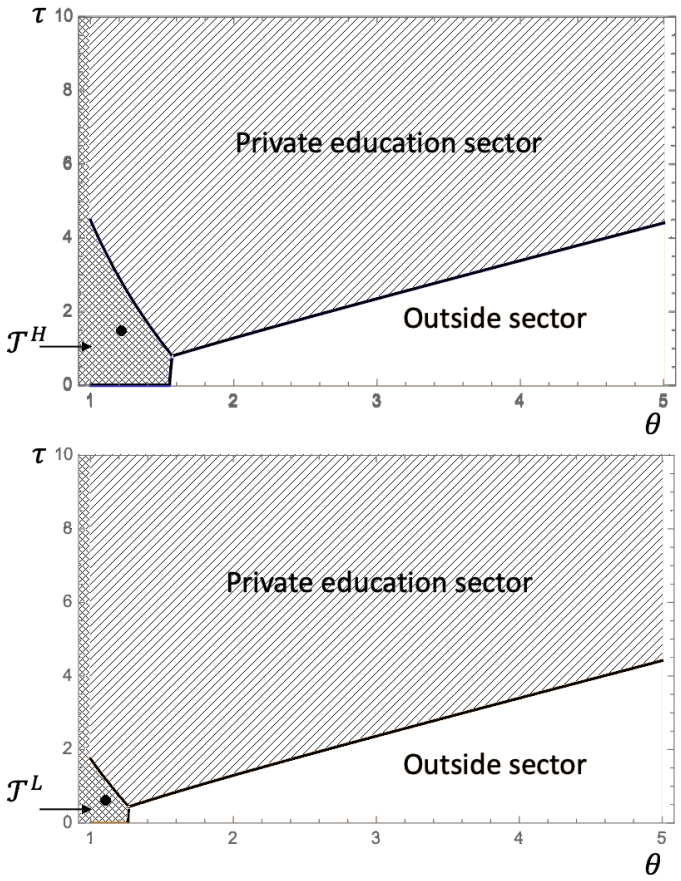
$$P^O = \Pr\left(\theta\ e + \varepsilon^O > \overline{z}\right) = \Pr\left(\theta\ e - \overline{z} > -\varepsilon^O\right) = \frac{\overline{\varepsilon} + \theta\ e - \overline{z}}{\overline{\varepsilon} - \underline{\varepsilon}}.$$

The first order condition for this optimization problem is

$$\frac{\theta\ \beta}{\overline{\varepsilon} - \underline{\varepsilon}} = 2e,$$

which yields the solution stated above. □

Figure A1: Teacher selection




*Note:* Teacher ability is distributed $\theta \sim U[1,5]$ and teacher intrinsic motivation is distributed $\tau \sim U[0,10]$. In the low management public school $G^L = 30$, $\Delta^L = 0$, and $\gamma^L = 1$. In the high management public school, $G^H = 35$, $\Delta^H = 0.5$ and $\gamma^H = 2$. Other parameters are set at $W = 15$, $B = 40$, $\bar{y} = 4.5$, $\beta = 50$, and $\bar{z} = 1$. The black point in the top panel shows average teacher ability and average baseline intrinsic motivation among teacher types who select into a high management public school. The $(x, y)$-coordinates are $(1.21, 1.47)$. The black point in the bottom panel shows average teacher ability and average baseline intrinsic motivation among teacher types who select into a low management public school. The $(x, y)$-coordinates are $(1.11, 0.60)$.

We now use these effort levels to study teacher selection. Figure A1 is based on a numerical example, as described in the figure note.[1] The cross-hatched region in the top panel of the figure shows $\mathcal{T}^H$, the set of $(\theta, \tau)$ types for whom the payoff from accepting a job in the assigned high management public school (weakly) exceeds both the expected payoff of declining and accepting a job in a high management private school and the expected payoff of declining and accepting a job in the outside sector. This region is bounded by two functions

$$\tau_P^H = \frac{7}{\theta} - 2\theta - \tfrac{1}{2}, \quad \tau_O^H = \sqrt{25\theta^2 - 60} - \tfrac{1}{2}.$$

The function $\tau_P^H$ traces out the loci of $(\theta, \tau)$ types who, anticipating subsequent teacher and household effort, are indifferent between accepting the job in the assigned high management public school and declining it in favour of a job in a high management private school, i.e. types for whom

$$G - (e^H)^2 + \left(\tau + \Delta^H\right)\, e^H = W + B\left(\frac{\overline{\varepsilon} + \theta\, e^P + a^P - \overline{y}}{\overline{\varepsilon} - \underline{\varepsilon}}\right) - (e^P)^2 + (\tau + \Delta^H)\, e^P.$$

Substituting for $e^H$ and $e^P$ from Lemma 1, together with the parameters in the numerical example (implying $a^P = 1$), and rearranging yields the expression for $\tau_P^H$ stated above. Fixing $\theta$, for any $\tau < \tau_P^H(\theta)$, the teacher's payoff from accepting the government's offer is strictly higher than her expected payoff from declining and accepting a job in a high management private school.

The function $\tau_O^H$ traces out the loci of $(\theta, \tau)$ types who, anticipating subsequent teacher effort, are indifferent between accepting the job in the assigned high management public school and declining it in favour of a job in the outside sector, i.e. types for whom

$$G - (e^H)^2 + (\tau + \Delta^H)\, e^H = \beta\left(\frac{\overline{\varepsilon} + \theta\, e^O - \overline{z}}{\overline{\varepsilon} - \underline{\varepsilon}}\right) - (e^O)^2.$$

Substituting for $e^H$ and $e^O$ from Lemma 1, together with the parameters in the numerical example, and rearranging for $\tau$ yields the expression for $\tau_O^H$ stated above. Fixing $\theta$, for any $\tau > \tau_O^H(\theta)$, the teacher's payoff from accepting the government's offer is strictly higher than her expected payoff from declining and accepting a job in the outside sector.

The values for average ability and average baseline intrinsic motivation (the coordinates of the black dot in the top panel) are obtained by numerical integration.

The cross-hatched region in the bottom panel of Figure A1 shows $\mathcal{T}^L$, the set of $(\theta, \tau)$ types for whom the payoff from accepting a job in the assigned low management public school (weakly) exceeds both the expected payoff of declining and accepting a job in a high management private school and the expected payoff of declining and accepting a job in the outside sector. This region is bounded by two functions

$$\tau_P^L = \frac{36}{8\theta + 1} - 2\theta - \tfrac{1}{4}, \quad \tau_O^L = \sqrt{25\theta^2 - 40}.$$

[1] Calculations were performed in Mathematica; the notebook file is available on request.

The function $\tau_P^L$ traces out the loci of $(\theta, \tau)$ types who, anticipating subsequent teacher and household effort, are indifferent between accepting the job in the assigned low management public school and declining it in favour of a job in a high management private school, i.e. types for whom

$$G - (e^L)^2 + \left(\tau + \Delta^L\right)\ e^L = W + B\left(\frac{\overline{\varepsilon} + \theta\ e^P + a^P - \overline{y}}{\overline{\varepsilon} - \underline{\varepsilon}}\right) - (e^P)^2 + (\tau + \Delta^H)\ e^P.$$

Substituting for $e^L$ and $e^P$ from Lemma 1, together with the parameters in the numerical example (implying $a^P = 1$), and rearranging yields the expression for $\tau_P^L$ stated above. Fixing $\theta$, for any $\tau < \tau_P^L(\theta)$, the teacher's payoff from accepting the government's offer is strictly higher than her expected payoff from declining and accepting a job in a high management private school.

The function $\tau_O^L$ traces out the loci of $(\theta, \tau)$ types who, anticipating subsequent teacher effort, are indifferent between accepting the job in the assigned low management public school and declining it in favour of a job in the outside sector, i.e. types for whom

$$G - (e^L)^2 + (\tau + \Delta^L)\ e^L = \beta\left(\frac{\overline{\varepsilon} + \theta\ e^O - \overline{z}}{\overline{\varepsilon} - \underline{\varepsilon}}\right) - (e^O)^2.$$

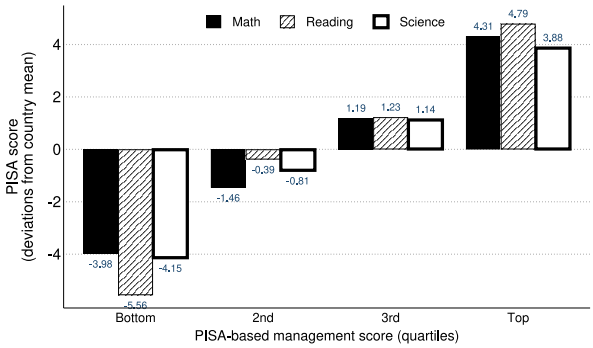
Substituting for $e^L$ and $e^O$ from Lemma 1, together with the parameters in the numerical example, and rearranging for $\tau$ yields the expression for $\tau_O^L$ stated above. Fixing $\theta$, for any $\tau > \tau_O^L(\theta)$, the teacher's payoff from accepting the government's offer is strictly higher than her expected payoff from declining and accepting a job in the outside sector.

The values for average ability and average baseline intrinsic motivation (the coordinates of the black dot in the bottom panel) are also obtained by numerical integration.

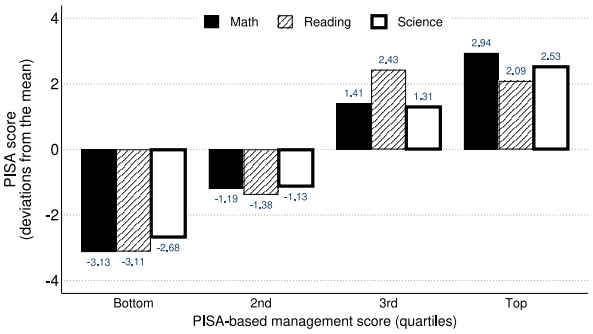
# B Additional Figures and Tables

Figure B1: Index robustness: management and student performance, alternative samples

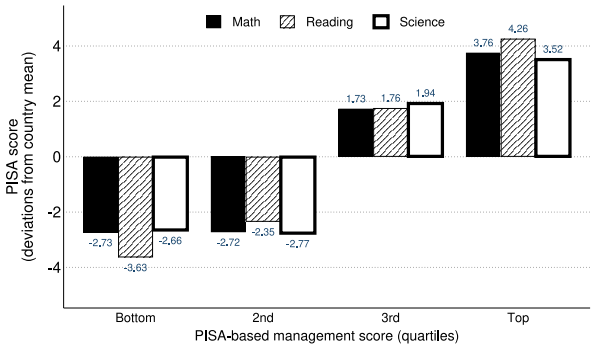
(a) PISA 2012, common questions with 2022



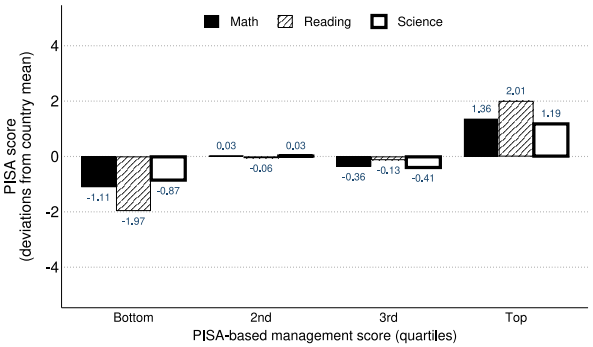

(b) PISA 2022




(c) PISA 2012, Anderson (2008) Index

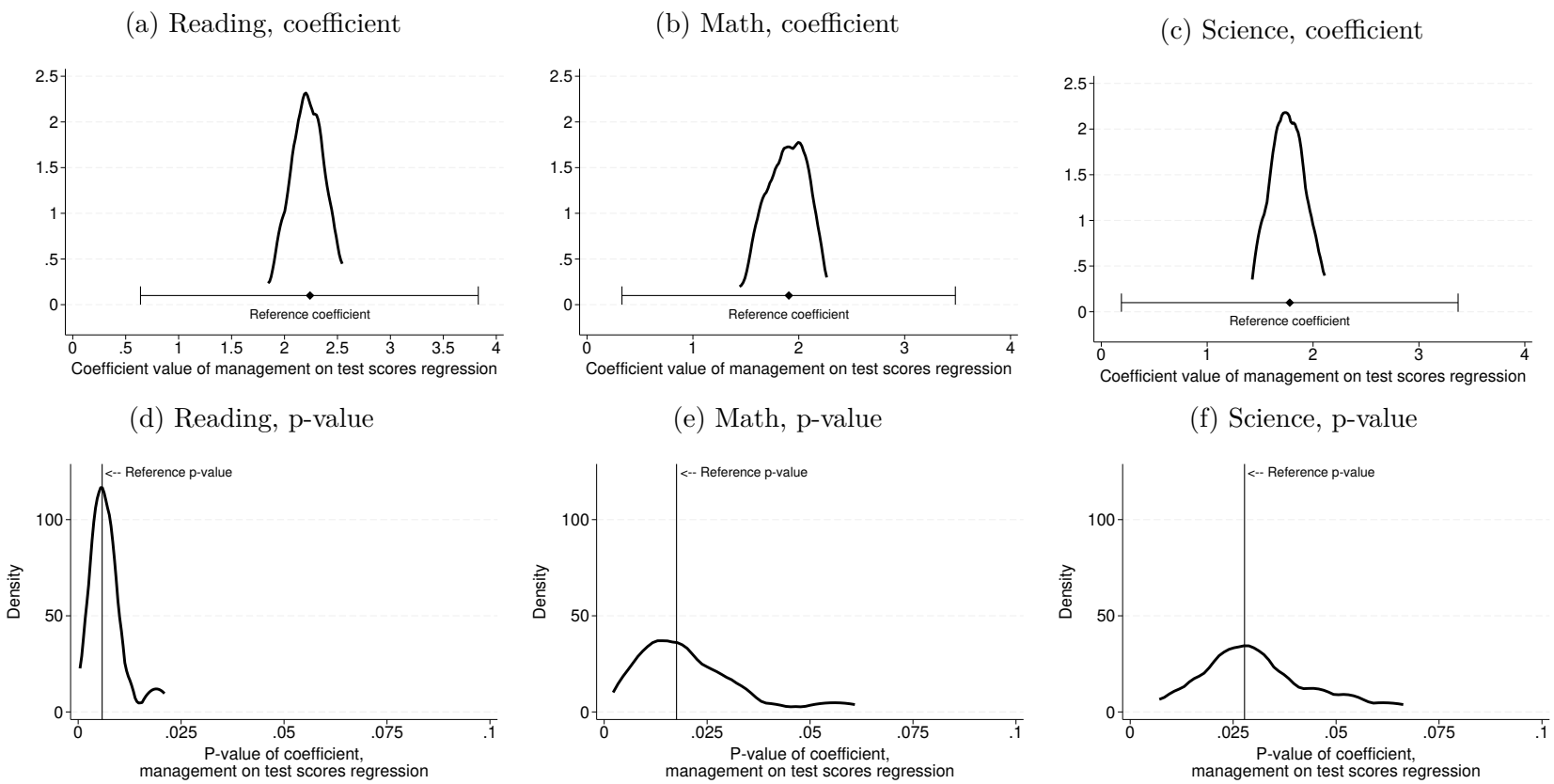



(d) PISA 2012, Principal Component Analysis



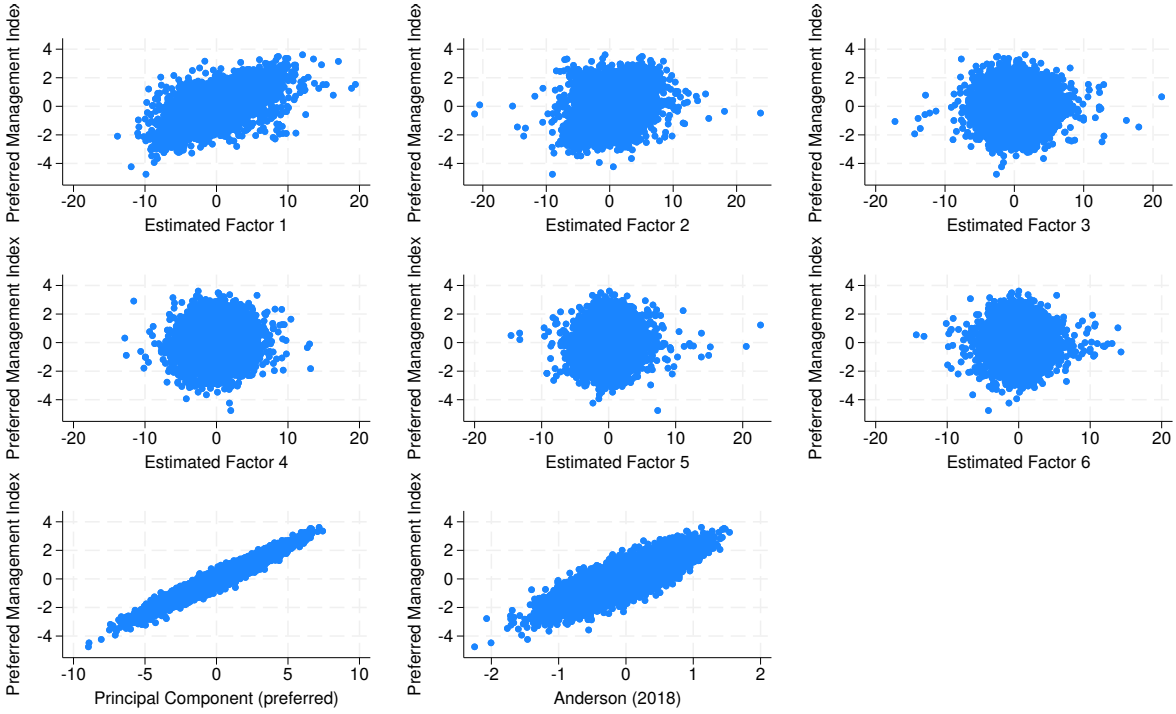

*Note:* Data from PISA 2012 and 2022. Panels (a), (c) and (d) use data from PISA 2012. Panel (b) uses data from PISA 2022. Student outcomes are estimated using five plausible values and collapsed at the school level using PISA's senate weights. Quartiles of the management index are built at the country level, for respective years. Test scores are presented as deviations from the subject-specific country mean for respective years. Panel (a) uses the set of common questions from the principal questionnaires in PISA 2012 and 2022 that pass the four decision nodes. Panel (b) uses the common set of questions in the 2022 questionnaire. Panel (c) builds the main management index using the Anderson (2008) methodology, where greater weight is given to variables with greater variation. Panel (d) builds the main management index using standard Principal Component Analysis methodology.

Figure B2: Index robustness: leave-one-out exercise




*Note:* Data from PISA 2012. The top graphs (a,b,c) plot the distribution of the coefficients of $MGMT_{sc}$ when running the main PISA validation regression (Equation (2) in the main article) for indices that exclude one of the management practices one at a time from the index construction ('leave one out' exercise). The marker and line at the bottom show the preferred specification 'benchmark' coefficient and confidence interval. The bottom panels plot the distribution of the p-values of the estimated coefficients. The vertical line denotes the 'benchmark' specification p-value of the management coefficient as a reference point.

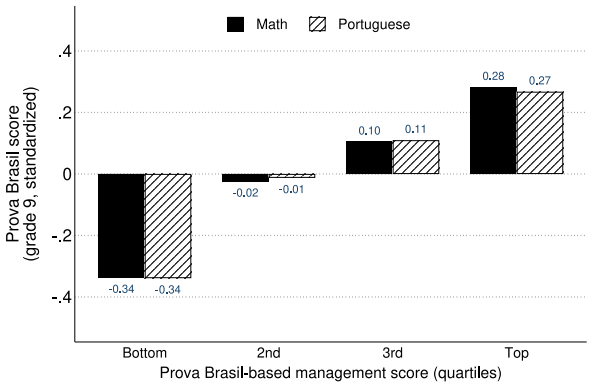
Figure B3: Index robustness: exploratory factor analysis comparison



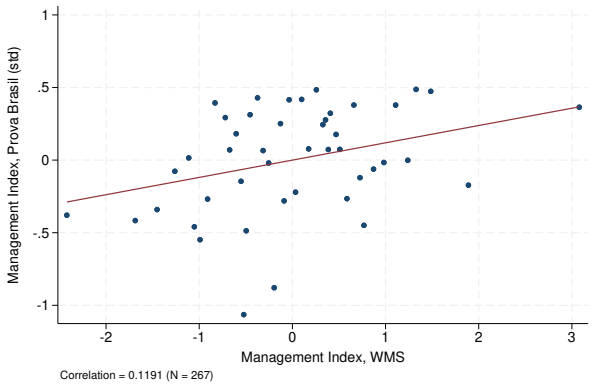

*Note:* Data from PISA 2012. Each panel is a scatterplot of the school-level preferred management index ($x$-axis) against an alternative index ($y$-axis). The first six panels (top two rows) compare the preferred index to each of the six latent factors extracted from the exploratory factor analysis described in Table 4 in the main article, taken one at a time. The last two panels (bottom row) hold the question set fixed at the preferred set and instead vary the index-construction method: the preferred index versus the first principal component (PCA) and versus the Anderson (2008) inverse-covariance-weighted index. A tight scatter around the 45-degree range indicates that the two indices order schools similarly; a noisy or off-line scatter indicates they capture different latent dimensions. Factor 1 shows the strongest (though noisy) positive correlation with the preferred index; the remaining factors show essentially no correlation, while the two alternative-method indices (PCA, Anderson) are more tightly aligned with the preferred index.

Figure B4: Index validation: management and student performance, alternative dataset (Prova Brasil)

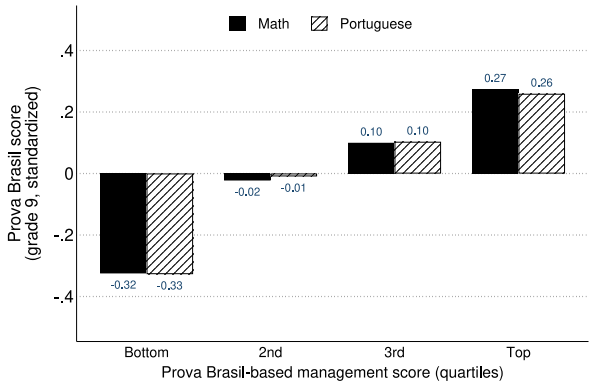
(a) Preferred Index: test scores by quartile



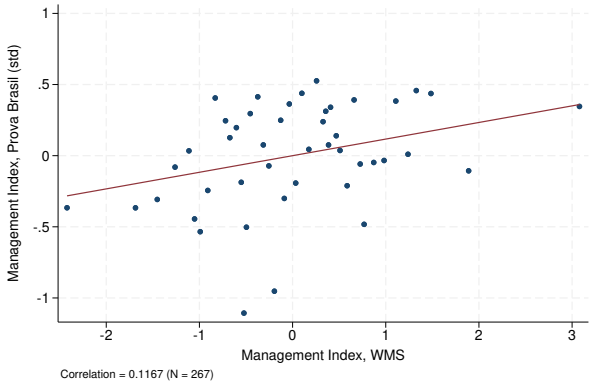

(b) Preferred Index: school-specific scores



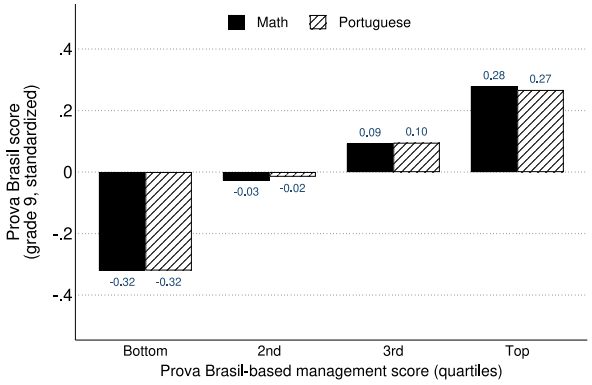

(c) Anderson (2008) Index: test scores by quartile



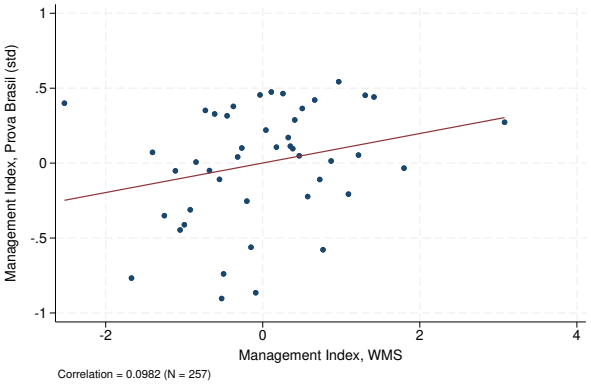

(d) Anderson (2008) Index: school-specific scores




(e) Principal Component Analysis: test scores by quartile

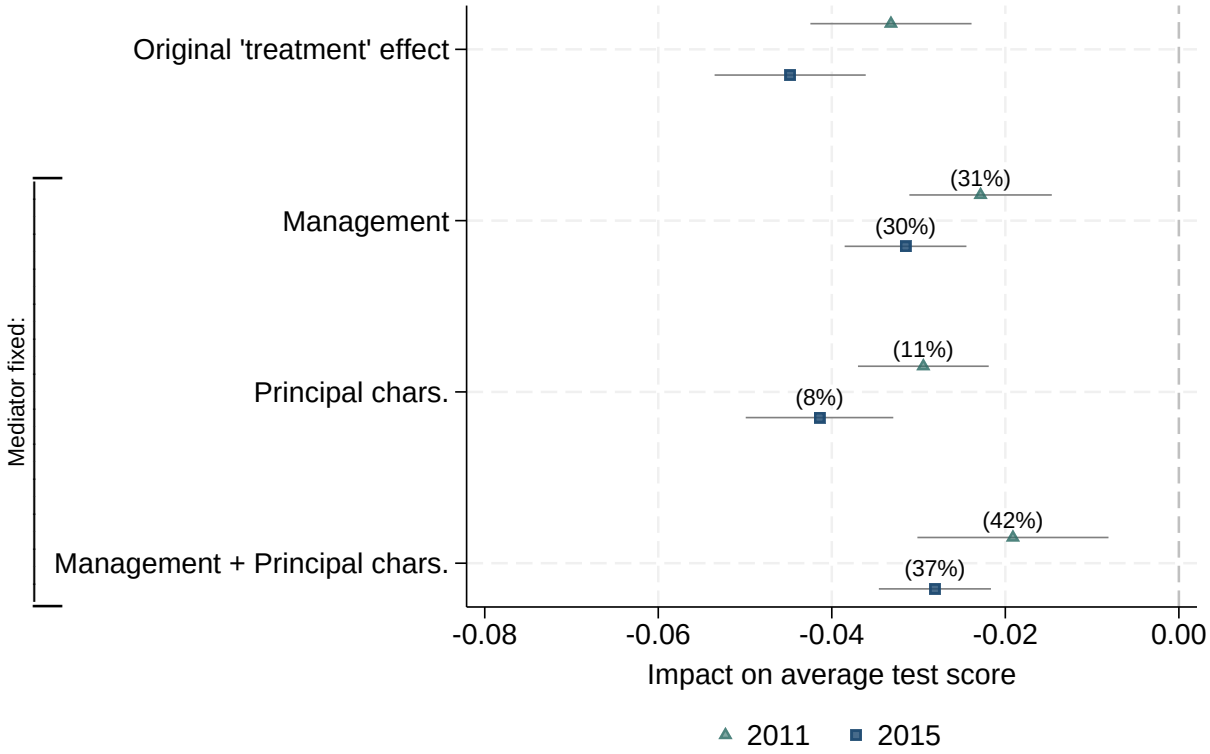



(f) Principal Component Analysis Index: school-specific scores




*Note:* Data is from Prova Brasil (2013), including 32,573 schools. Sample restricted to schools with grade 9 to maintain closer comparability to the WMS sample. Panels (a), (c) and (e) show test scores in deviations from the subject-specific mean, by management quartile. Panel (a) uses our preferred index building methodology, following the WMS. Panel (c) builds the main management index using the Anderson (2008) methodology, where greater weight is given to variables with greater variation. Panel (e) builds the main management index using standard Principal Component Analysis methodology. Panels (b), (d) and (f) also use data from the World Management Survey. In these panels, the sample contains schools which have data for both Prova Brasil and WMS in 2013 (267 schools), matched at the school level via school identifiers. All graphs are binned scatter plots using 45 quantiles.

Figure B5: Mediation analysis: 2011 and 2015




*Note:* This figure replicates the main mediation analysis figure using the Prova Brasil 2011 and 2015 survey waves. The top coefficient shows the original 'treatment' effect of school principal turnover on student test scores (in either the Prova Brasil 2011 or 2015 assessment). This coefficient and its 95 percent confidence interval are obtained from estimating the main mediation equation, with variables defined appropriately for 2011 and 2015. The second coefficient is the Average Controlled Direct Effect (ACDE) of turnover on test scores using management as a mediator. The third coefficient is the ACDE using a set of principal characteristics (binary indicators for gender, age over 50 years, experience over 15 years, wage over 7 times the minimum, and only one job, plus a set of education dummies) as mediators. The fourth coefficient combines all mediators. We estimate the ACDE using the techniques described in Acharya et al. (2016).

Table B1: Index validation: management and student performance, alternative dataset (Prova Brasil)

| | Portuguese Score | | | | Mathematics Score | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Management Index | 0.147*** | 0.069*** | 0.044*** | 0.018*** | 0.162*** | 0.073*** | 0.050*** | 0.019*** |
| | (0.002) | (0.001) | (0.001) | (0.001) | (0.002) | (0.002) | (0.001) | (0.001) |
| R-Squared | 0.018 | 0.068 | 0.160 | 0.234 | 0.022 | 0.085 | 0.151 | 0.245 |
| # Students | 12,263,694 | 12,263,694 | 12,263,694 | 12,263,694 | 12,263,694 | 12,263,694 | 12,263,694 | 12,263,694 |
| # Schools | 68,704 | 68,704 | 68,704 | 68,704 | 68,704 | 68,704 | 68,704 | 68,704 |
| Year FE | Y | Y | Y | Y | Y | Y | Y | Y |
| State FE | | Y | Y | | | Y | Y | |
| Controls | Y | Y | Y | Y | Y | Y | Y | Y |
| School FE | | | | Y | | | | Y |

*Note:* Data from Prova Brasil. OLS regressions were run with the student-level dataset, pooling grades 5 and 9, for years 2011 to 2015. Standard errors clustered at the school level. Test scores are normalized within grade. All specifications include year fixed effects. **Student controls** include: gender, student households' consumption index, a set of dummies for race, dummies for mother educational attainment (grades 1-5, grades 6-9, secondary grades 10-12, and college). **School controls** include: indicator variable for urban schools, student-teacher ratio, log of the number of students, dummies indicating the presence of a computer lab and whether the school has internet access, principals' age, set of dummies for principals' race, principals' educational attainment (set of dummies for less than high school, high school, undergraduate (pedagogy), undergraduate (math), undergraduate (Portuguese), undergraduate (others), masters, doctoral), indicator for whether the principal holds another job, class-year-level share of white teachers, share of teachers holding a college degree, and average teacher tenure.

Table B2: Index validation: management and school functioning, alternative dataset (Prova Brasil)

| Outcome variable: | Teacher shortage | | Teacher motivation | | Teacher effort | | Household effort | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Management Index | -0.086*** | -0.112*** | 0.347*** | 0.365*** | 0.074*** | 0.041*** | 0.123*** | 0.047*** |
| | (0.003) | (0.005) | (0.003) | (0.006) | (0.003) | (0.005) | (0.003) | (0.004) |
| R-Squared | 0.007 | 0.609 | 0.119 | 0.575 | 0.006 | 0.657 | 0.016 | 0.703 |
| # School-year obs | 169,557 | 169,557 | 167,586 | 167,586 | 169,601 | 169,601 | 169,622 | 169,622 |
| # Schools | 68,889 | 68,889 | 68,419 | 68,419 | 68,898 | 68,898 | 68,912 | 68,912 |
| **Controls** | | | | | | | | |
| Year FE | Y | Y | Y | Y | Y | Y | Y | Y |
| State FE | Y | Y | | | | Y | | Y |
| School | | Y | | Y | | Y | | Y |
| Student | | Y | | Y | | Y | | Y |

*Note:* Data from Prova Brasil. OLS regressions were run with the student-level dataset, pooling grades 5 and 9, for years 2011 to 2015. Standard errors clustered at the school level. Test scores are normalized within grade. All specifications include year fixed effects. **Student controls** include: gender, student households' consumption index, a set of dummies for race, dummies for mother educational attainment (grades 1-5, grades 6-9, secondary grades 10-12, and college). **School controls** include: indicator variable for urban schools, student-teacher ratio, log of the number of students, dummies indicating the presence of a computer lab and whether the school has internet access, principals' age, set of dummies for principals' race, principals' educational attainment (set of dummies for less than high school, high school, undergraduate (pedagogy), undergraduate (math), undergraduate (Portuguese), undergraduate (others), masters, doctoral), indicator for whether the principal holds another job, class-year-level share of white teachers, share of teachers holding a college degree, and average teacher tenure.

Table B3: Political turnover and school management scores

| | Outcome: Management Index | | | | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| **Municipal Schools** | | | | | | |
| $1[IVoteM_mt < 0]$ | -0.189*** | -0.185*** | -0.213*** | -0.207*** | -0.247*** | -0.238*** |
| | (0.038) | (0.037) | (0.054) | (0.052) | (0.043) | (0.042) |
| Baseline Management Index | 0.362*** | 0.321*** | 0.353*** | 0.310*** | 0.352*** | 0.311*** |
| | (0.011) | (0.010) | (0.013) | (0.013) | (0.012) | (0.011) |
| R-Squared | 0.166 | 0.184 | 0.163 | 0.184 | 0.160 | 0.177 |
| # School-year obs | 11,607 | 11,607 | 6,117 | 6,117 | 9,080 | 9,080 |
| # Schools | 2,516 | 2,516 | 1,563 | 1,563 | 2,130 | 2,130 |
| Using Bandwidth | 0.146 | 0.146 | 0.070 | 0.070 | 0.110 | 0.110 |
| Optimal Bandwidth | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 |
| **Non-Municipal Schools** | | | | | | |
| $1[IVoteM_{mt} < 0]$ | 0.003 | 0.004 | 0.058 | 0.082 | 0.009 | 0.016 |
| | (0.054) | (0.051) | (0.068) | (0.064) | (0.055) | (0.053) |
| Baseline Management Index | 0.418*** | 0.384*** | 0.400*** | 0.363*** | 0.402*** | 0.369*** |
| | (0.017) | (0.015) | (0.019) | (0.017) | (0.015) | (0.014) |
| R-Squared | 0.191 | 0.211 | 0.179 | 0.203 | 0.180 | 0.202 |
| # School-year obs | 6,992 | 6,992 | 3,965 | 3,965 | 5,663 | 5,663 |
| # Schools | 2,183 | 2,183 | 1,390 | 1,390 | 1,875 | 1,875 |
| Using Bandwidth | 0.139 | 0.139 | 0.070 | 0.070 | 0.110 | 0.110 |
| Optimal Bandwidth | 0.139 | 0.139 | 0.139 | 0.139 | 0.139 | 0.139 |
| **Controls** | | | | | | |
| School controls | | Y | | Y | | Y |

*Note:* Standard errors in parentheses. The top panel reports the coefficient on political party turnover from the main RD regression using the sample of municipal schools. In all specifications, we control for baseline standardized management scores in the year before the election. Additional controls are a set of school-level indicators (whether: the school is located in an urban or rural area, the school is connected to the electric grid, the school is connected to the water network, the school is connected to the sewage system, the school's trash is regularly collected, and the school has Internet) and a 2012 election-cycle indicator. Optimal bandwidth follows Calonico et al. (2017). The bottom panel repeats the analysis using non-municipal schools (state and federal schools). Only public schools participate in the Prova Brasil exam.

# References

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Anderson, M. L. (2008). Multiple inference and gender differences in the effects of early intervention: A reevaluation of the abecedarian, perry preschool, and early training projects. *Journal of the American Statistical Association 103*(484), 1481–1495.

# C Variable classification: PISA and Prova Brasil

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|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Q1 | Is your school a public or a private school? | Y | N | | | Organizational structure | |
| Q2a-Q2d | About what percentage of your total funding for a typical school year comes from the following sources? [various sources] | Y | N | | | Organizational structure | |
| Q3 | Which of the following definitions best describes the community in which your school is located? | Y | N | | | Local context | |
| Q4 | Which of the following statements best describes the schooling available to students in your location? | Y | N | | | Local context | |
| Q5 | What is the average size of English classes in the 10th grade in your school? | Y | N | | | School characteristic | |
| Q6a, b | As at <February 1, 2012>, what was the total school enrolment (number of students)? Boys, Girls | Y | N | | | School characteristic | |
| Q7 | Approximately what percentage of students at this school last year were eligible for free- or reduced-price lunches through the National School Lunch Program? | Y | N | | | School characteristic | |
| Q8 | About how many students in the 10th grade in your school have a first language that is not English? | Y | N | | | School characteristic | |

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|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Q9a-Q9f | How many of the following teachers are on the staff of your school? [various choices] | Y | N | | | School characteristic | |
| Q10a-e | How many of the following are on the <mathematics staff> of your school? [various options] | Y | N | | | School characteristic | |
| Q11a | At your school, what is the total number of students in the <national modal grade for 15-year-olds>? | Y | N | | | School resources | |
| Q11b | Approximately, how many computers are available for these students for educational purposes? | Y | N | | | School resources | |
| Q11c | Approximately, how many of these computers are connected to the Internet/World Wide Web? | Y | N | | | School resources | |
| Q12a-c | In all subjects taken together, for how much of the work does the school expect <national modal grade for 15-yearolds> students to access the Internet/ World Wide Web? [various options] | Y | N | | | School policy | Management: WMS + policy |
| Q13a | Is your school's capacity to provide instruction hindered by any of the following issues? A lack of qualified science teachers | N | | | | Intermediate outcome | Teacher shortage |
| Q13b | Is your school's capacity to provide instruction hindered by any of the following issues? A lack of qualified mathematics teachers | N | | | | Intermediate outcome | Teacher shortage |

| PISA Question # | PISA question text | Management practices decision tree | | | | Category | Index |
|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Q13c | Is your school's capacity to provide instruction hindered by any of the following issues? A lack of qualified <test language> teachers | N | | | | Intermediate outcome | Teacher shortage |
| Q13d | Is your school's capacity to provide instruction hindered by any of the following issues? A lack of qualified teachers of other subjects | N | | | | Intermediate outcome | Teacher shortage |
| Q13e | Is your school's capacity to provide instruction hindered by any of the following issues? Shortage or inadequacy of science laboratory equipment | N | | | | Intermediate outcome | |
| Q13f | Is your school's capacity to provide instruction hindered by any of the following issues? Shortage or inadequacy of instructional materials (e.g. textbooks) | N | | | | Intermediate outcome | |
| Q13g | Is your school's capacity to provide instruction hindered by any of the following issues? Shortage or inadequacy of computers for instruction | N | | | | Intermediate outcome | |
| Q13h | Is your school's capacity to provide instruction hindered by any of the following issues? Lack or inadequacy of Internet connectivity | N | | | | Intermediate outcome | |
| Q13i | Is your school's capacity to provide instruction hindered by any of the following issues? Shortage or inadequacy of computer software for instruction | N | | | | Intermediate outcome | |
| Q13j | Is your school's capacity to provide instruction hindered by any of the following issues? Shortage or inadequacy of library materials | N | | | | Intermediate outcome | |

| PISA Question # | PISA question text | Management practices decision tree | | | | Category | Index |
|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Q13k | Is your school's capacity to provide instruction hindered by any of the following issues? Shortage or inadequacy of school buildings and grounds | N | | | | Intermediate outcome | |
| Q13l | Is your school's capacity to provide instruction hindered by any of the following issues? Shortage or inadequacy of heating/cooling and lighting systems | N | | | | Intermediate outcome | |
| Q13m | Is your school's capacity to provide instruction hindered by any of the following issues? Shortage or inadequacy of instructional space (e.g. classrooms) | N | | | | Intermediate outcome | |
| Q14a | Which of the following options describe what your school does for <national modal grade for 15-year-olds> students in mathematics classes? Mathematics classes study similar content, but at different levels of difficulty | Y | Y | Y | Y | Management | Management: WMS |
| Q14b | Which of the following options describe what your school does for <national modal grade for 15-year-olds> students in mathematics classes? Different classes study different content or sets of mathematics topics that have | Y | Y | Y | N | Management | Management: broad |
| Q14c | Which of the following options describe what your school does for <national modal grade for 15-year-olds> students in mathematics classes? Students are grouped by ability within their mathematics classes. | Y | Y | Y | N | Management | Management: broad |
| Q14d | Which of the following options describe what your school does for <national modal grade for 15-year-olds> students in mathematics classes? In mathematics classes, teachers use pedagogy suitable for students with heterogeneous | Y | Y | Y | Y | Management | Management: WMS |
| Q15a-j | <This academic year>, which of the following activities does your school offer to students in the <national modal grade for 15-years-olds>? [various offerings] | Y | N | | | Intermediate outcome | |

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|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Q16a | In your school, are assessments of students in <national modal grade for 15-year-olds> used for any of the following purposes? To inform parents about their child's progress | Y | Y | Y | Y | Management | Management: WMS |
| Q16b | In your school, are assessments of students in <national modal grade for 15-year-olds> used for any of the following purposes? To make decisions about students' retention or promotion | Y | Y | Y | Y | Management | Management: WMS |
| Q16c | In your school, are assessments of students in <national modal grade for 15-year-olds> used for any of the following purposes? To group students for instructional purposes | Y | Y | Y | N | Management | Management: broad |
| Q16d | In your school, are assessments of students in <national modal grade for 15-year-olds> used for any of the following purposes? To compare the school to <district or national> performance | Y | Y | Y | Y | Management | Management: WMS |
| Q16e | In your school, are assessments of students in <national modal grade for 15-year-olds> used for any of the following purposes? To monitor the school's progress from year to year | Y | Y | Y | Y | Management | Management: WMS |
| Q16f | In your school, are assessments of students in <national modal grade for 15-year-olds> used for any of the following purposes? To make judgements about teachers' effectiveness | Y | Y | Y | Y | Management | Management: WMS |
| Q16g | In your school, are assessments of students in <national modal grade for 15-year-olds> used for any of the following purposes? To identify aspects of instruction or the curriculum that could be improved | Y | Y | Y | Y | Management | Management: WMS |
| Q16h | In your school, are assessments of students in <national modal grade for 15-year-olds> used for any of the following purposes? To compare the school with other schools | Y | Y | Y | Y | Management | Management: WMS |

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|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Q17a | In your school, are achievement data used in any of the following <accountability procedures>? Achievement data are posted publicly (e.g. in the media) | Y | Y | Y | Y | Management | Management: WMS |
| Q17b | In your school, are achievement data used in any of the following <accountability procedures>? Achievement data are tracked over time by an administrative authority | Y | Y | Y | Y | Management | Management: WMS |
| Q18 | Does your school offer mathematics lessons in addition to the mathematics lessons offered during the usual school hours? | Y | N | | | Intermediate outcome | |
| Q19 | What is the purpose of these additional mathematics lessons? | Y | N | | | School policy | Management: WMS + policy |
| Q20a | In your school, to what extent is the learning of students hindered by the following phenomena? Student truancy | N | | | | Intermediate outcome | Household effort |
| Q20b | In your school, to what extent is the learning of students hindered by the following phenomena? Students skipping classes | N | | | | Intermediate outcome | Household effort |
| Q20c | In your school, to what extent is the learning of students hindered by the following phenomena? Students arriving late for school | N | | | | Intermediate outcome | Household effort |
| Q20d | In your school, to what extent is the learning of students hindered by the following phenomena? Students not attending compulsory school events (e.g. sports day) or excursions | N | | | | Intermediate outcome | Household effort |

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|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Q20e | In your school, to what extent is the learning of students hindered by the following phenomena? Students lacking respect for teachers | N | | | | Intermediate outcome | Household effort |
| Q20f | In your school, to what extent is the learning of students hindered by the following phenomena? Disruption of classes by students | N | | | | Intermediate outcome | Household effort |
| Q20g | In your school, to what extent is the learning of students hindered by the following phenomena? Student use of alcohol or illegal drugs | N | | | | Intermediate outcome | |
| Q20h | In your school, to what extent is the learning of students hindered by the following phenomena? Students intimidating or bullying other students | N | | | | Intermediate outcome | Household effort |
| Q20i | In your school, to what extent is the learning of students hindered by the following phenomena? Students not being encouraged to achieve their full potential | N | | | | Intermediate outcome | |
| Q20j | In your school, to what extent is the learning of students hindered by the following phenomena? Poor student-teacher relations | N | | | | Intermediate outcome | Household effort |
| Q20k | In your school, to what extent is the learning of students hindered by the following phenomena? Teachers having to teach students of heterogeneous ability levels within the same class | N | | | | Intermediate outcome | Teacher effort |
| Q20l | In your school, to what extent is the learning of students hindered by the following phenomena? Teachers having to teach students of diverse ethnic backgrounds (i.e. language, culture) within the same class | N | | | | Intermediate outcome | |

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|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Q20m | In your school, to what extent is the learning of students hindered by the following phenomena? Teachers's low expectations of students | N | | | | Intermediate outcome | Teacher motivation |
| Q20n | In your school, to what extent is the learning of students hindered by the following phenomena? Teachers not meeting individual students' needs | N | | | | Intermediate outcome | Teacher motivation |
| Q20o | In your school, to what extent is the learning of students hindered by the following phenomena? Teacher absenteeism | N | | | | Intermediate outcome | Teacher effort |
| Q20p | In your school, to what extent is the learning of students hindered by the following phenomena? Staff resisting change | N | | | | Intermediate outcome | |
| Q20q | In your school, to what extent is the learning of students hindered by the following phenomena? Teachers being too strict with students | N | | | | Intermediate outcome | Teacher effort |
| Q20r | In your school, to what extent is the learning of students hindered by the following phenomena? Teachers being late for classes | N | | | | Intermediate outcome | Teacher effort |
| Q20s | In your school, to what extent is the learning of students hindered by the following phenomena? Teachers not being well prepared for classes | N | | | | Intermediate outcome | Teacher effort |
| Q21 | During <the last academic year>, what proportion of students left your school without a <certificate or qualification that allows students to enter post-school destinations such as university, technical, further or vocational education, | Y | N | | | Outcome | |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Q22 | Which statement below best characterises parental expectations towards your school? | N | | | | Intermediate outcome | Household effort |
| Q23a | During <the last academic year>, what proportion of students' parents participated in the following school-related activities? Discussed their child's behaviour with a teacher on their own initiative. | Y | | | | Intermediate outcome | Household effort |
| Q23b | During <the last academic year>, what proportion of students' parents participated in the following school-related activities? Discussed their child's behaviour on the initiative of one of their child's teachers. | Y | | | | Intermediate outcome | |
| Q23c | During <the last academic year>, what proportion of students' parents participated in the following school-related activities? Discussed their child's progress with a teacher on their own initiative. | Y | | | | Intermediate outcome | Household effort |
| Q23d | During <the last academic year>, what proportion of students' parents participated in the following school-related activities? Discussed their child's progress on the initiative of one of their child's teachers. | Y | | | | Intermediate outcome | |
| Q23e | During <the last academic year>, what proportion of students' parents participated in the following school-related activities? Volunteered in physical activities, e.g. building maintenance, carpentry, gardening or yard work. | Y | | | | Intermediate outcome | Household effort |
| Q23f | During <the last academic year>, what proportion of students' parents participated in the following school-related activities? Volunteered in extra-curricular activities, e.g. book club, school play, sports, field trip. | Y | | | | Intermediate outcome | Household effort |
| Q23g | During <the last academic year>, what proportion of students' parents participated in the following school-related activities? Volunteered in the school library or media centre. | Y | | | | Intermediate outcome | Household effort |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Q23h | During <the last academic year>, what proportion of students' parents participated in the following school-related activities? Assisted a teacher in the school. | Y | | | | Intermediate outcome | Household effort |
| Q23i | During <the last academic year>, what proportion of students' parents participated in the following school-related activities? Appeared as a guest speaker. | Y | | | | Intermediate outcome | Household effort |
| Q23j | During <the last academic year>, what proportion of students' parents participated in the following school-related activities? Participated in local school <government>, e.g. parent council or school management committee. | Y | | | | Intermediate outcome | Household effort |
| Q23k | During <the last academic year>, what proportion of students' parents participated in the following school-related activities? Assisted in fundraising for the school. | Y | | | | Intermediate outcome | Household effort |
| Q23l | During <the last academic year>, what proportion of students' parents participated in the following school-related activities? Volunteered in the school <canteen>. | Y | | | | Intermediate outcome | Household effort |
| Q24a | Think about the teachers in your school. How much do you agree with the following statements? The morale of teachers in this school is high. | N | | | | Intermediate outcome | Teacher motivation |
| Q24b | Think about the teachers in your school. How much do you agree with the following statements? Teachers work with enthusiasm. | N | | | | Intermediate outcome | Teacher motivation |
| Q24c | Think about the teachers in your school. How much do you agree with the following statements? Teachers take pride in this school. | N | | | | Intermediate outcome | Teacher motivation |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Q24d | Think about the teachers in your school. How much do you agree with the following statements? Teachers value academic achievement. | N | | | | Intermediate outcome | Teacher motivation |
| Q25a | How much do you agree with these statements about teachers in your school? Mathematics teachers are interested in trying new methods and teaching practices. | N | | | | Intermediate outcome | Teacher motivation |
| Q25b | How much do you agree with these statements about teachers in your school? There is a preference among mathematics teachers to stay with well-known methods and practices. | N | | | | Intermediate outcome | Teacher motivation |
| Q25c | How much do you agree with these statements about teachers in your school? There is consensus among mathematics teachers that academic achievement must be kept as high as possible | N | | | | School policy | |
| Q25d | How much do you agree with these statements about teachers in your school? There is consensus among mathematics teachers that it is best to adapt academic standards to the students' levels and needs. | N | | | | School policy | |
| Q25e | How much do you agree with these statements about teachers in your school? There is consensus among mathematics teachers that the social and emotional development of the students is as important as their acquisition of mathematical skills | N | | | | School policy | |
| Q25f | How much do you agree with these statements about teachers in your school? There is consensus among mathematics teachers that the development of mathematical skills and knowledge in students is the most important objective in | N | | | | School policy | |
| Q26a | During the last year, have any of the following methods been used to monitor the practice of mathematics teachers at your school? Tests or assessments of student achievement | Y | Y | Y | Y | Management | Management: WMS |

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|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Q26b | During the last year, have any of the following methods been used to monitor the practice of mathematics teachers at your school? Teacher peer review (of lesson plans, assessment instruments, lessons) | Y | Y | Y | Y | Management | Management: WMS |
| Q26c | During the last year, have any of the following methods been used to monitor the practice of mathematics teachers at your school? Principal or senior staff observations of lessons | Y | Y | Y | Y | Management | Management: WMS |
| Q26d | During the last year, have any of the following methods been used to monitor the practice of mathematics teachers at your school? Observation of classes by inspectors or other persons external to the school | Y | Y | Y | Y | Management | Management: WMS |
| Q27a | To what extent have appraisals of and/or feedback to teachers directly led to the following? A change in salary | Y | Y | Y | Y | Management | Management: WMS |
| Q27b | To what extent have appraisals of and/or feedback to teachers directly led to the following? A financial bonus or another kind of monetary reward | Y | Y | Y | Y | Management | Management: WMS |
| Q27c | To what extent have appraisals of and/or feedback to teachers directly led to the following? Opportunities for professional development activities | Y | Y | Y | Y | Management | Management: WMS |
| Q27d | To what extent have appraisals of and/or feedback to teachers directly led to the following? A change in the likelihood of career advancement | Y | Y | Y | Y | Management | Management: WMS |
| Q27e | To what extent have appraisals of and/or feedback to teachers directly led to the following? Public recognition from you | Y | Y | Y | Y | Management | Management: WMS |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Q27f | To what extent have appraisals of and/or feedback to teachers directly led to the following? Changes in work responsibilities that make the job more attractive | Y | Y | Y | Y | Management | Management: WMS |
| Q27g | To what extent have appraisals of and/or feedback to teachers directly led to the following? A role in school development initiatives (e.g. curriculum development group, development of school objectives) | Y | Y | Y | Y | Management | Management: WMS |
| Q28a | How often are the following factors considered when students are admitted to your school? Student's record of academic performance (including placement tests) | Y | N | | | School policy | Management: WMS + policy |
| Q28b | How often are the following factors considered when students are admitted to your school? Recommendation of feeder schools | Y | N | | | School policy | Management: WMS + policy |
| Q28c | How often are the following factors considered when students are admitted to your school? Parents' endorsement of the instructional or religious philosophy of the school | Y | N | | | School policy | Management: WMS + policy |
| Q28d | How often are the following factors considered when students are admitted to your school? Whether the student requires or is interested in a special programme | Y | N | | | School policy | Management: WMS + policy |
| Q28e | How often are the following factors considered when students are admitted to your school? Preference given to family members of current or former students | Y | N | | | School policy | Management: WMS + policy |
| Q28f | How often are the following factors considered when students are admitted to your school? Residence in a particular area | Y | N | | | School policy | Management: WMS + policy |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Q28g | How often are the following factors considered when students are admitted to your school? Other | Y | N | | | School policy | Management: WMS + policy |
| Q29 | Regarding your school, who has a considerable responsibility for the following tasks? [various tasks] | Y | Y | N | | Organizational structure (autonomy) | Management: WMS + autonomy |
| Q30a | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. I work to enhance the school's reputation in the | N | | | | Principal policy | |
| Q30b | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. I use student performance results to develop the | Y | Y | Y | Y | Management | Management: WMS |
| Q30c | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. I make sure that the professional development | Y | Y | Y | Y | Management | Management: WMS |
| Q30d | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. I ensure that teachers work according to the | Y | Y | Y | Y | Management | Management: WMS |
| Q30e | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. I promote teaching practices based on recent | Y | Y | Y | Y | Management | Management: WMS |
| Q30f | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. I praise teachers whose students are actively | Y | Y | Y | Y | Management | Management: WMS |

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|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Q30g | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. When a teacher has problems in his/her classroom, I | Y | Y | Y | Y | Management | Management: WMS |
| Q30h | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. I draw teachers' attention to the importance of pupils' | Y | Y | Y | N | Management | Management: broad |
| Q30i | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. I pay attention to disruptive behaviour in classrooms. | N | | | | Principal policy | |
| Q30j | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. I provide staff with opportunities to participate in school | Y | Y | Y | Y | Management | Management: WMS |
| Q30k | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. I engage teachers to help build a school culture of | Y | Y | Y | Y | Management | Management: WMS |
| Q30l | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. I ask teachers to participate in reviewing management | Y | Y | Y | Y | Management | Management: WMS |
| Q30m | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. When a teacher brings up a classroom problem, we | Y | Y | Y | Y | Management | Management: WMS |
| Q30n | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. I discuss the school's academic goals with | Y | Y | Y | Y | Management | Management: WMS |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Q30o | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. I refer to the school's academic goals when | Y | Y | Y | Y | Management | Management: WMS |
| Q30p | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. I discuss academic performance results with the faculty | Y | Y | Y | Y | Management | Management: WMS |
| Q30q | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. I lead or attend in-service activities concerned with | Y | Y | Y | Y | Management | Management: WMS |
| Q30r | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. I set aside time at faculty meetings for teachers to | Y | Y | Y | Y | Management | Management: WMS |
| Q30s | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. I conduct informal observations in classrooms on a | Y | Y | Y | Y | Management | Management: WMS |
| Q30t | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. I review work produced by students when | Y | Y | Y | Y | Management | Management: WMS |
| Q30u | Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>. I evaluate the performance of staff. | Y | Y | Y | Y | Management | Management: WMS |
| Q31a | During the last three months, what percentage of teaching staff in your school has attended a programme of professional development with a focus on mathematics? All staff at your school | Y | Y | Y | Y | Management | Management: WMS |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Q31b | During the last three months, what percentage of teaching staff in your school has attended a programme of professional development with a focus on mathematics? Staff who teach mathematics at your school | Y | Y | Y | Y | Management | Management: WMS |
| Q32a | Which of the following measures aimed at quality assurance and improvement do you have in your school? Written specification of the school's curricular profile and educational goals | Y | N | | | School policy | Management: WMS + policy |
| Q32b | Which of the following measures aimed at quality assurance and improvement do you have in your school? Written specification of student performance standards | Y | N | | | School policy | Management: WMS + policy |
| Q32c | Which of the following measures aimed at quality assurance and improvement do you have in your school? Systematic recording of data including teacher and student attendance and graduation rates, test results and professional | Y | Y | Y | Y | Management | Management: WMS |
| Q32d | Which of the following measures aimed at quality assurance and improvement do you have in your school? Internal evaluation/self-evaluation | Y | Y | Y | Y | Management | Management: WMS |
| Q32e | Which of the following measures aimed at quality assurance and improvement do you have in your school? External evaluation | Y | Y | Y | N | Management | Management: broad |
| Q32f | Which of the following measures aimed at quality assurance and improvement do you have in your school? Seeking written feed-back from students (e.g. regarding lessons, teachers or resources) | Y | Y | Y | Y | Management | Management: WMS |
| Q32g | Which of the following measures aimed at quality assurance and improvement do you have in your school? Teacher mentoring | Y | Y | Y | Y | Management | Management: WMS |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Q32h | Which of the following measures aimed at quality assurance and improvement do you have in your school? Regular consultation aimed at school improvement with one or more experts over a period of at least six months | Y | Y | Y | N | Management | Management: broad |
| Q32i | Which of the following measures aimed at quality assurance and improvement do you have in your school? Implementation of a standardised policy for mathematics (i.e. school curriculum with shared instructional materials accompanied | Y | Y | Y | Y | Management | Management: WMS |
| Q33a | Which of the following statements apply in your school? The school has a policy on how to use computers in mathematics instruction (e.g. amount of computer use in mathematics lessons, use of specific mathematics computer | Y | N | | | School policy | Management: WMS + policy |
| Q33b | Which of the following statements apply in your school? All <national modal grade for 15-year-olds> mathematics classes in the school use the same textbook. | Y | Y | Y | Y | Management | Management: WMS |
| Q33c | Which of the following statements apply in your school? Mathematics teachers in the school follow a standardised curriculum that specifies content at least on a monthly basis. | Y | Y | Y | Y | Management | Management: WMS |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Director | What is your gender? | Y | N | | | Characteristic | |
| Director | Could you tell us your age range? | Y | N | | | Characteristic | |
| Director | What race do you consider yourself to be? | Y | N | | | Characteristic | |
| Director | What is the highest level of education you have completed (up to graduation)? | Y | N | | | Characteristic | |
| Director | How many years ago did you obtain the level of education indicated above (up to graduation)? | Y | N | | | Characteristic | |
| Director | Indicate from which type of institution you obtained your higher education degree. | Y | N | | | Characteristic | |
| Director | How did you complete your higher education course? (mode of instruction) | Y | N | | | Characteristic | |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Director | Indicate the highest postgraduate degree you have. | Y | N | | | Characteristic | |
| Director | Indicate the thematic area of the highest postgraduate course you have. | Y | N | | | Characteristic | |
| Director | As a principal, approximately what is your gross salary? (with extras, if any). | Y | N | | | Characteristic | |
| Director | In addition to running this school, do you have any other activity that contributes to your personal income? | Y | N | | | Characteristic | |
| Director | Considering all the activities you carry out (inside and outside the education field), approximately what is your gross salary? (with extras, if any). | Y | N | | | Characteristic | |
| Director | What is your weekly working hours as principal at this school? | Y | N | | | Characteristic | |
| Director | You took over the leadership of this school through: (election or appointment) | Y | N | | | Characteristic | |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Director | How many years have you been a principal? | Y | N | | | Characteristic | |
| Director | How many years have you been a principal at this school? | Y | N | | | Characteristic | |
| Director | How many years have you worked in the education field? | Y | N | | | Characteristic | |
| Director | During the past two years, have you participated in any professional development activities? | Y | N | | | Characteristic | |
| Director | In the last two years, have you organized any continuing education activities (updating, training, capacity building, etc.) at this school? | Y | Y | Y | Y | Management | Management |
| Director | How many teachers from this school participated in the continuing education activities that you organized in the last two years? | Y | Y | Y | Y | Management | Management |
| Director | What is the percentage of teachers with a stable contract at this school? | Y | N | | | Characteristic | |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Director | The School Council is a body generally made up of representatives of the school and the community whose objective is to monitor school activities. This year, how many times did the School Council meet? | Y | Y | Y | Y | Management | Management |
| Director | The School Council includes students | Y | Y | Y | Y | Management | Management |
| Director | The School Council includes staff. | Y | Y | Y | Y | Management | Management |
| Director | The School Council includes parents. | Y | Y | Y | Y | Management | Management |
| Director | The Class Council is a body made up of all teachers who teach in each class/grade. This year and at this school, how many times did the Class Council meet? | Y | Y | Y | Y | Management | Management |
| Director | This year and in this school, how did the Pedagogical Project come about? | Y | Y | Y | Y | Management | Management |
| Director | This year, what was the criteria for admitting students to this school? | Y | N | | | School policy | |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Director | This year, what was the situation with the availability of places at this school? | Y | N | | | School policy | |
| Director | This year, what was the main criterion used to form classes at this school? | Y | Y | Y | Y | Management | Management |
| Director | This year, what was the main criterion for assigning teachers to classes? | Y | Y | Y | Y | Management | Management |
| Director | Has there been any action taken at this school to reduce dropout rates? | Y | Y | Y | Y | Management | Management |
| Director | Has there been any action taken at this school to reduce failure rates? | Y | Y | Y | Y | Management | Management |
| Director | Has there been any action taken to reinforce student learning (monitoring, reinforcement classes, recovery, etc.)? | Y | Y | Y | Y | Management | Management |
| Director | Indicate how often the following activities are carried out to minimize student absences this year and at this school: Teachers talk to students to try to solve the problem. | Y | Y | Y | Y | Management | Management |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Director | Indicate how frequently the following activities are carried out to minimize student absences this year and at this school: Parents/guardians are notified by the school. | Y | Y | Y | Y | Management | Management |
| Director | Indicate how often the following activities are carried out to minimize student absences this year and at this school: Parents/guardians are called to the school to talk about the matter at a parents' meeting. | Y | Y | Y | Y | Management | Management |
| Director | Indicate how often the following activities are carried out to minimize student absences this year and at this school: Parents/guardians are called to the school to discuss the matter individually. | Y | Y | Y | Y | Management | Management |
| Director | Indicate how often the following activities are carried out to minimize student absences this year and at this school: The school sends someone to the student's home. | Y | Y | Y | Y | Management | Management |
| Director | Has the functioning of the school been hampered by any of the following problems? Insufficient financial resources. | Y | N | | | Outcomes | |
| Director | Has the functioning of the school been hampered by any of the following problems? Lack of teachers for some subjects or grades. | Y | N | | | Outcomes | Teacher shortage |
| Director | Has the functioning of the school been hampered by any of the following problems? Lack of administrative staff. | Y | N | | | Outcomes | |

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|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Director | Has the functioning of the school been hampered by any of the following problems? Lack of pedagogical support staff (supervisor, coordinator, educational advisor). | Y | N | | | Outcomes | Teacher shortage |
| Director | Has the functioning of the school been hampered by any of the following problems? Lack of pedagogical resources. | Y | N | | | Outcomes | |
| Director | Has the functioning of the school been hampered by any of the following problems? Interruption of school activities. | Y | N | | | Outcomes | |
| Director | Has the functioning of the school been hampered by any of the following problems? High rate of absenteeism by teachers. | Y | N | | | Outcomes | |
| Director | Has the functioning of the school been hampered by any of the following problems? High rate of absenteeism by students. | Y | N | | | Outcomes | Household effort |
| Director | Has the functioning of the school been hampered by any of the following problems? High turnover of teaching staff. | Y | N | | | Outcomes | Teacher shortage |
| Director | Has the functioning of the school been hampered by any of the following problems? Lack of student discipline | Y | N | | | Outcomes | Household effort |

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|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Director | Consider the conditions that exist for holding the position of principal at this school: Is there interference from external actors in your management of the school? | Y | N | | | Context | |
| Director | Consider the existing conditions for holding the position of principal at this school: Is there support from higher authorities? | Y | N | | | Context | |
| Director | Consider the conditions that exist for holding the position of principal at this school: Is there an exchange of information with principals from other schools? | Y | Y | Y | | Context | |
| Director | Consider the conditions that exist for holding the position of principal at this school: Is there community support for your management? | Y | N | | | Context | |
| Director | Did this school receive financial support from the federal government this year? | Y | N | | | Characteristic | |
| Director | Did this school receive financial support from the state government this year? | Y | N | | | Characteristic | |
| Director | Did this school receive financial support from the municipal government this year? | Y | N | | | Characteristic | |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Director | How did you choose your textbooks this year? | Y | Y | Y | Y | Management | Management |
| Director | This year, at this school, the following situations occurred: Books arrived in time for the start of classes. | Y | N | | | Context | |
| Director | This year, at this school, the following situations occurred: There were no books for the students. | Y | N | | | Context | |
| Director | This year, at this school, the following situations occurred: The books selected by the staff were the ones received. | Y | N | | | Context | |
| Teacher | What is your gender? | Y | N | | | Characteristic | |
| Teacher | Could you tell us your age range? | Y | N | | | Characteristic | |
| Teacher | What race do you consider yourself to be? | Y | N | | | Characteristic | |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Teacher | What is the highest level of education you have completed (up to graduation)? | Y | N | | | Characteristic | |
| Teacher | How many years ago did you obtain the level of education indicated above (up to graduation)? | Y | N | | | Characteristic | |
| Teacher | Indicate from which type of institution you obtained your higher education degree. | Y | N | | | Characteristic | |
| Teacher | How did you complete your higher education course? (mode of instruction) | Y | N | | | Characteristic | |
| Teacher | Indicate the highest postgraduate degree you have. | Y | N | | | Characteristic | |
| Teacher | Indicate the thematic area of the highest postgraduate course you have. | Y | N | | | Characteristic | |
| Teacher | As a teacher, approximately what is your gross salary? (with extras, if any). | Y | N | | | Characteristic | |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Teacher | In addition to teaching at this school, do you have any other activity that contributes to your personal income? | Y | N | | | Characteristic | |
| Teacher | How many years have you worked as a teacher? | Y | N | | | Characteristic | |
| Teacher | How many years have you worked as a teacher at this school? | Y | N | | | Characteristic | |
| Teacher | How many years have you been teaching students in the grade/class you are currently in? | Y | N | | | Characteristic | |
| Teacher | What is your employment situation at this school? | Y | N | | | Characteristic | |
| Teacher | At this school, what is your weekly workload? (Consider the contractual workload: class hours plus hours for activities, if any. Do not consider private classes) | Y | N | | | Characteristic | |
| Teacher | How many schools do you work in? | Y | N | | | Characteristic | |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Teacher | Considering all the schools where you currently work as a teacher, what is your weekly workload? (Consider the contractual workload: class hours plus hours for activities, if any. Do not consider private classes) | Y | N | | | Characteristic | |
| Teacher | We would like to know which resources you use for teaching purposes in this class: Newspapers and informative magazines. | Y | Y | Y | Y | Management | Management |
| Teacher | We would like to know which resources you use for teaching purposes in this class: Literature books in general. | Y | Y | Y | Y | Management | Management |
| Teacher | We would like to know which resources you use for teaching purposes in this class: Copy machine (xerox). | Y | Y | N | | Resources | |
| Teacher | This year and in this school, how did the Pedagogical Project come about? | Y | Y | Y | Y | Management | Management |
| Teacher | The Class Council is a body formed by all teachers who teach in each class/grade. This year and at this school, how many times did the Class Council meet? | Y | Y | Y | Y | Management | Management |
| Teacher | In this school and this year, indicate how often: The principal pays special attention to aspects related to student learning. | Y | N | | | Policy | |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Teacher | In this school and this year, indicate how often: The principal pays special attention to aspects related to administrative rules. | Y | N | | | Policy | |
| Teacher | In this school and this year, indicate how often: The principal pays special attention to aspects related to the maintenance of the school. | Y | N | | | Policy | |
| Teacher | At this school and this year, indicate how often: The principal encourages me and motivates me to work. | Y | N | | | Outcomes | Teacher motivation |
| Teacher | In this school and this year, indicate how often: The principal encourages innovative activities. | Y | Y | Y | Y | Outcomes | Management |
| Teacher | At this school and this year, indicate how often: I feel respected by the principal. | Y | N | | | Outcomes | Teacher motivation |
| Teacher | In this school and this year, indicate how often: I have confidence in the principal as a professional. | Y | N | | | Outcomes | Teacher motivation |
| Teacher | At this school and this year, indicate how often: I participate in decisions related to my work. | Y | Y | Y | | Outcomes | Teacher motivation |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Teacher | At this school and this year, please indicate how often: The teaching team takes my ideas into consideration. | Y | Y | Y | | Outcomes | Teacher motivation |
| Teacher | Do the possible learning problems of students in the grade(s) or year(s) assessed occur, in this school, due to: Lack of physical infrastructure. | Y | Y | N | | Outcomes | |
| Teacher | Do the possible learning problems of students in the grade(s) or year(s) assessed occur, in this school, due to: Curricular content that are inappropriate to the needs of the students. | Y | Y | Y | Y | Management | Management |
| Teacher | Do possible learning problems for students in the grade(s) or year(s) assessed occur, in this school, due to: Non-compliance with curricular content throughout the student's school career . | Y | Y | Y | Y | Management | Management |
| Teacher | Do the possible learning problems of students in the grade(s) or year(s) assessed occur, in this school, due to: Teachers' workload, making planning and preparation difficult of classes. | Y | N | | | Outcomes | Teacher shortage |
| Teacher | Do the possible learning problems of students in the grade(s) or year(s) assessed occur, in this school, due to: Dissatisfaction and discouragement of the teacher with the teaching career. | Y | Y | Y | | Outcomes | |
| Teacher | Do the possible learning problems of students in the grade(s) or year(s) assessed occur, in this school, due to: The social environment in which the student lives. | Y | Y | N | | Outcomes | |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Teacher | Do the possible learning problems of students in the grade(s) or year(s) assessed occur, in this school, due to: Cultural level of the students' parents. | Y | Y | N | | Outcomes | |
| Teacher | Do the possible learning problems of students in the grade(s) or year(s) assessed occur, in this school, due to: Lack of assistance and monitoring from parents in the student's school life. | Y | N | | | Outcomes | Household effort |
| Teacher | Do the possible learning problems of students in the grade(s) or year(s) assessed occur, in this school, due to: Low self-esteem of students. | Y | N | | | Outcomes | |
| Teacher | Do the possible learning problems of students in the grade(s) or year(s) assessed occur, in this school, due to: Lack of interest and lack of effort on the part of the student. | Y | N | | | Outcomes | Household effort |
| Teacher | Do the possible learning problems of students in the grade(s) or year(s) assessed occur, in this school, due to: Lack of student discipline in the classroom. | Y | N | | | Outcomes | Household effort |
| Teacher | Do the possible learning problems of students in the grade(s) or year(s) assessed occur, in this school, due to: High rate of absenteeism by students. | Y | N | | | Outcomes | Household effort |
| Teacher | From the list below, note whether or not they happened this year, at this school: You were the victim of an attempt on your life. | N | | | | Outcomes | |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Teacher | From the list below, note whether or not they happened this year, at this school: You were threatened by a student. | N | | | | Outcomes | |
| Teacher | From the list below, note whether or not they happened this year, at this school: You were a victim of theft (without the use of violence). | N | | | | Outcomes | |
| Teacher | From the list below, note whether or not they happened this year, at this school: You were a victim of robbery (using violence). | N | | | | Outcomes | |
| Teacher | From the list below, note whether or not they happened this year, at this school: Students attended school under the influence of alcohol. | N | | | | Outcomes | |
| Teacher | From the list below, note whether or not they happened this year, at this school: Students attended school under the influence of illicit drugs. | N | | | | Outcomes | |
| Teacher | From the list below, note whether or not they happened this year, at this school: Students attended school carrying bladed weapons (knives, pocket knives, etc.). | N | | | | Outcomes | |
| Teacher | From the list below, note whether or not they happened this year, at this school: Students attended school carrying firearms. | N | | | | Outcomes | |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Teacher | (ONLY FOR TEACHERS OF 4th grade/5th year and 8th grade/9th year) In your opinion, how many of the students in this class do you think will complete elementary school? | N | | | | Opinion | |
| Teacher | (TO ALL TEACHERS) How many of the students in this class do you think will complete high school? | N | | | | Opinion | |
| Teacher | (TO ALL TEACHERS) How many of the students in this class do you think will go to university? | N | | | | Opinion | |
| Teacher | Was the textbook chosen the one received? | Y | Y | N | | Resources | |
| Teacher | Do the students in this class have textbooks? | Y | Y | Y | Y | Management | Management |
| Teacher | Did the students in this class receive the textbook at the beginning of the school year? | Y | N | | | Resources | |
| Teacher | How do you rate the quality of the textbooks you use in this class this year? | Y | N | | | Resources | |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Teacher | How much of the planned content were you able to finish with the students in this class this year? | Y | Y | Y | Y | Management | Management |
| Student Grade 9 | What is your gender? | Y | N | | | Characteristic | |
| Student Grade 9 | What race do you consider yourself to be? | Y | N | | | Characteristic | |
| Student Grade 9 | Could you tell us what month your birthday is? | Y | N | | | Characteristic | |
| Student Grade 9 | What year were you born? | Y | N | | | Characteristic | |
| Student Grade 9 | Do you have a color television in your house? | Y | N | | | Characteristic | |
| Student Grade 9 | Do you have a radio in your house? | Y | N | | | Characteristic | |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Student Grade 9 | Do you have a VCR and/or DVD in your house? | Y | N | | | Characteristic | |
| Student Grade 9 | Do you have a refrigerator in your house? | Y | N | | | Characteristic | |
| Student Grade 9 | Do you have a freezer separate from the refrigerator in your house? | Y | N | | | Characteristic | |
| Student Grade 9 | Do you have a washing machine in your house (The six-pack should NOT be considered)? | Y | N | | | Characteristic | |
| Student Grade 9 | Do you have a car in your house? | Y | N | | | Characteristic | |
| Student Grade 9 | Do you have a computer at home? | Y | N | | | Characteristic | |
| Student Grade 9 | Does your house have a bathroom? | Y | N | | | Characteristic | |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Student Grade 9 | Do you have bedrooms in your house? | Y | N | | | Characteristic | |
| Student Grade 9 | Including yourself, how many people currently live in your household? | Y | N | | | Characteristic | |
| Student Grade 9 | Does a domestic worker work in your home at least five days a week? | Y | N | | | Characteristic | |
| Student Grade 9 | You live with your mother? | Y | N | | | Characteristic | |
| Student Grade 9 | Until what grade did your mother, or the woman responsible for you, study? | Y | N | | | Characteristic | |
| Student Grade 9 | Does your mother, or the woman responsible for you, know how to read and write? | Y | N | | | Characteristic | |
| Student Grade 9 | Do you see your mother, or the woman responsible for you, reading? | Y | N | | | Characteristic | |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Student Grade 9 | Do you live with your father? | Y | N | | | Characteristic | |
| Student Grade 9 | To what grade did your father, or the man responsible for you, study? | Y | N | | | Characteristic | |
| Student Grade 9 | Does your father, or the man responsible for you, know how to read and write? | Y | N | | | Characteristic | |
| Student Grade 9 | Do you see your father, or the man responsible for you, reading? | Y | N | | | Characteristic | |
| Student Grade 9 | How often do your parents, or those responsible for you, attend parent meetings? | Y | N | | | Outcomes | Household effort |
| Student Grade 9 | Do your parents or guardians encourage you to study? | Y | N | | | Outcomes | Household effort |
| Student Grade 9 | Do your parents or guardians encourage you to do your homework and/or school work? | Y | N | | | Outcomes | Household effort |

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| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Student Grade 9 | Do your parents or guardians encourage you to read? | Y | N | | | Outcomes | Household effort |
| Student Grade 9 | Do your parents or guardians encourage you to go to school and/or not miss classes? | Y | N | | | Outcomes | Household effort |
| Student Grade 9 | Do your parents or guardians talk to you about what happens at school? | Y | N | | | Outcomes | Household effort |
| Student Grade 9 | On a school day, how much time do you spend watching TV, surfing the internet or playing electronic games? | Y | N | | | Outcomes | |
| Student Grade 9 | On a school day, how much time do you spend doing housework (e.g. washing dishes, cleaning the yard, etc.)? | Y | N | | | Outcomes | |
| Student Grade 9 | Do you currently work outside the home (whether or not you receive a salary)? | Y | N | | | Characteristic | |
| Student Grade 9 | When did you start school? | Y | N | | | Characteristic | |

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|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Student Grade 9 | From fifth grade or sixth grade onwards, what type of school did you go to? | Y | N | | | Characteristic | |
| Student Grade 9 | Have you ever been rejected? | Y | N | | | Characteristic | |
| Student Grade 9 | Have you ever dropped out of school during class time and stayed out of school for the rest of the year? | Y | N | | | Characteristic | |
| Student Grade 9 | Do you like studying Portuguese? | Y | N | | | Preferences | |
| Student Grade 9 | Do you do your Portuguese language homework? | Y | N | | | Outcomes | Household effort |
| Student Grade 9 | Does the teacher correct Portuguese language homework? | Y | Y | N | | Outcomes | |
| Student Grade 9 | Do you like studying Mathematics? | Y | N | | | Preferences | |

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|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Student Grade 9 | Do you do your math homework? | Y | N | | | Outcomes | Household effort |
| Student Grade 9 | Does the teacher correct your Mathematics homework? | Y | Y | N | | Outcomes | |
| Student Grade 9 | When you finish the 9th year (8th grade) you intend to: | Y | N | | | Preferences | |
| Student Grade 5 | What is your gender? | Y | N | | | Characteristic | |
| Student Grade 5 | What race do you consider yourself to be? | Y | N | | | Characteristic | |
| Student Grade 5 | What is the month of your birthday? | Y | N | | | Characteristic | |
| Student Grade 5 | How old are you? | Y | N | | | Characteristic | |

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|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Student Grade 5 | Do you have a color television in your house? | Y | N | | | Characteristic | |
| Student Grade 5 | Do you have a radio in your house? | Y | N | | | Characteristic | |
| Student Grade 5 | Do you have a VCR and/or DVD in your house? | Y | N | | | Characteristic | |
| Student Grade 5 | Do you have a refrigerator in your house? | Y | N | | | Characteristic | |
| Student Grade 5 | Do you have a freezer separate from the refrigerator in your house? | Y | N | | | Characteristic | |
| Student Grade 5 | Do you have a washing machine in your house (The six-pack should NOT be considered)? | Y | N | | | Characteristic | |
| Student Grade 5 | Do you have a car in your house? | Y | N | | | Characteristic | |

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|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Student Grade 5 | Do you have a computer at home? | Y | N | | | Characteristic | |
| Student Grade 5 | Does your house have a bathroom? | Y | N | | | Characteristic | |
| Student Grade 5 | Do you have bedrooms in your house? | Y | N | | | Characteristic | |
| Student Grade 5 | Including yourself, how many people currently live in your household? | Y | N | | | Characteristic | |
| Student Grade 5 | Does a domestic worker work in your home at least five days a week? | Y | N | | | Characteristic | |
| Student Grade 5 | You live with your mother? | Y | N | | | Characteristic | |
| Student Grade 5 | Until what grade did your mother, or the woman responsible for you, study? | Y | N | | | Characteristic | |

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|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Student Grade 5 | Does your mother, or the woman responsible for you, know how to read and write? | Y | N | | | Characteristic | |
| Student Grade 5 | Do you see your mother, or the woman responsible for you, reading? | Y | N | | | Characteristic | |
| Student Grade 5 | Do you live with your father? | Y | N | | | Characteristic | |
| Student Grade 5 | To what grade did your father, or the man responsible for you, study? | Y | N | | | Characteristic | |
| Student Grade 5 | Does your father, or the man responsible for you, know how to read and write? | Y | N | | | Characteristic | |
| Student Grade 5 | Do you see your father, or the man responsible for you, reading? | Y | N | | | Characteristic | |
| Student Grade 5 | How often do your parents, or those responsible for you, attend parent meetings? | Y | N | | | Outcomes | Household effort |

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|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Student Grade 5 | Do your parents or guardians encourage you to study? | Y | N | | | Outcomes | Household effort |
| Student Grade 5 | Do your parents or guardians encourage you to do your homework and/or school work? | Y | N | | | Outcomes | Household effort |
| Student Grade 5 | Do your parents or guardians encourage you to read? | Y | N | | | Outcomes | Household effort |
| Student Grade 5 | Do your parents or guardians encourage you to go to school and/or not miss classes? | Y | N | | | Outcomes | Household effort |
| Student Grade 5 | Do your parents or guardians talk to you about what happens at school? | Y | N | | | Outcomes | Household effort |
| Student Grade 5 | On a school day, how much time do you spend watching TV, surfing the internet or playing electronic games? | Y | N | | | Characteristic | |
| Student Grade 5 | On a school day, how much time do you spend doing housework (e.g. washing dishes, cleaning the yard, etc.)? | Y | N | | | Characteristic | |

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|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Student Grade 5 | Do you currently work outside the home (whether or not you receive a salary)? | Y | N | | | Characteristic | |
| Student Grade 5 | When did you start school? | Y | N | | | Characteristic | |
| Student Grade 5 | Starting in first grade, what type of school did you attend? | Y | N | | | Characteristic | |
| Student Grade 5 | Have you ever been rejected? | Y | N | | | Characteristic | |
| Student Grade 5 | Have you ever dropped out of school during class time and stayed out of school for the rest of the year? | Y | N | | | Characteristic | |
| Student Grade 5 | Do you do your Portuguese language homework? | Y | N | | | Outcomes | Household effort |
| Student Grade 5 | Does the teacher correct Portuguese language homework? | Y | Y | N | | Outcomes | |

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|---|---|---|---|---|---|---|---|
| | | Is the question objective? | Is it describing a process? | Is it linked to a mgmt practice? | Is there a WMS topic match? | | |
| Student Grade 5 | Do you do your math homework? | Y | N | | | Outcomes | Household effort |
| Student Grade 5 | Does the teacher correct your Mathematics homework? | Y | Y | N | | Outcomes | |
| Student Grade 5 | When did you start school? | Y | N | | | Characteristic | |