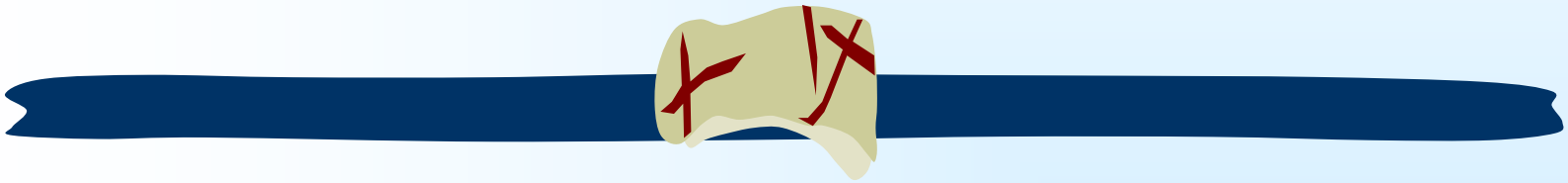
The world's best school systems



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How the world's best-performing school systems come out on top
By Michael Barber and Mona Mourshed

The report is the outcome of an analysis of the achievements of the best-performing school systems as defined by the OECD's Programme for International Student Assessment (PISA), a survey of the current literature,[2] and interviews with more than one hundred experts, policymakers and practitioners. In the course of this research we have visited schools from Wellington to Helsinki and from Singapore to Boston in order to benchmark more than two dozen school systems in Asia, Europe, North America and the Middle East.

Systems in the top ten in the OECD's PISA (2003)[1]	Systems with strong improvement trajectory [4]
• Alberta[2]	• Atlanta
• Australia	• Boston
• Belgium	• Chicago
• Finland	• England
• Hong Kong	• Jordan
• Japan	• New York
• Netherlands	• Ohio
• New Zealand	
• Ontario[2]	
• Singapore[3]	
• South Korea	

The team also understood the reform direction rationale of five other school system that are currently launching improvement programs

https://www.mckinsey.com/industries/social-sector/our-insights/how-the-worlds-best-performing-school-systems-come-out-on-top

Fundamental similarities

To improve instruction, these high-performing school systems consistently do well the three things that matter most :

1. They get the right people to become teachers (the quality of an education system cannot exceed the quality of its teachers).

2. They develop those people into effective instructors (the only way to improve outcomes is to improve instruction).

3. They put in place systems and targeted support to ensure that every child is able to benefit from excellent instruction (the only way for the system to reach the highest performance is to raise the standard of every student).

Exhibit 26: Key questions and parameters in system development

1. "The quality of an education system cannot exceed the quality of its teachers"
2. "The only way to improve outcomes is to improve instruction"
3. "High performance requires every child to succeed"

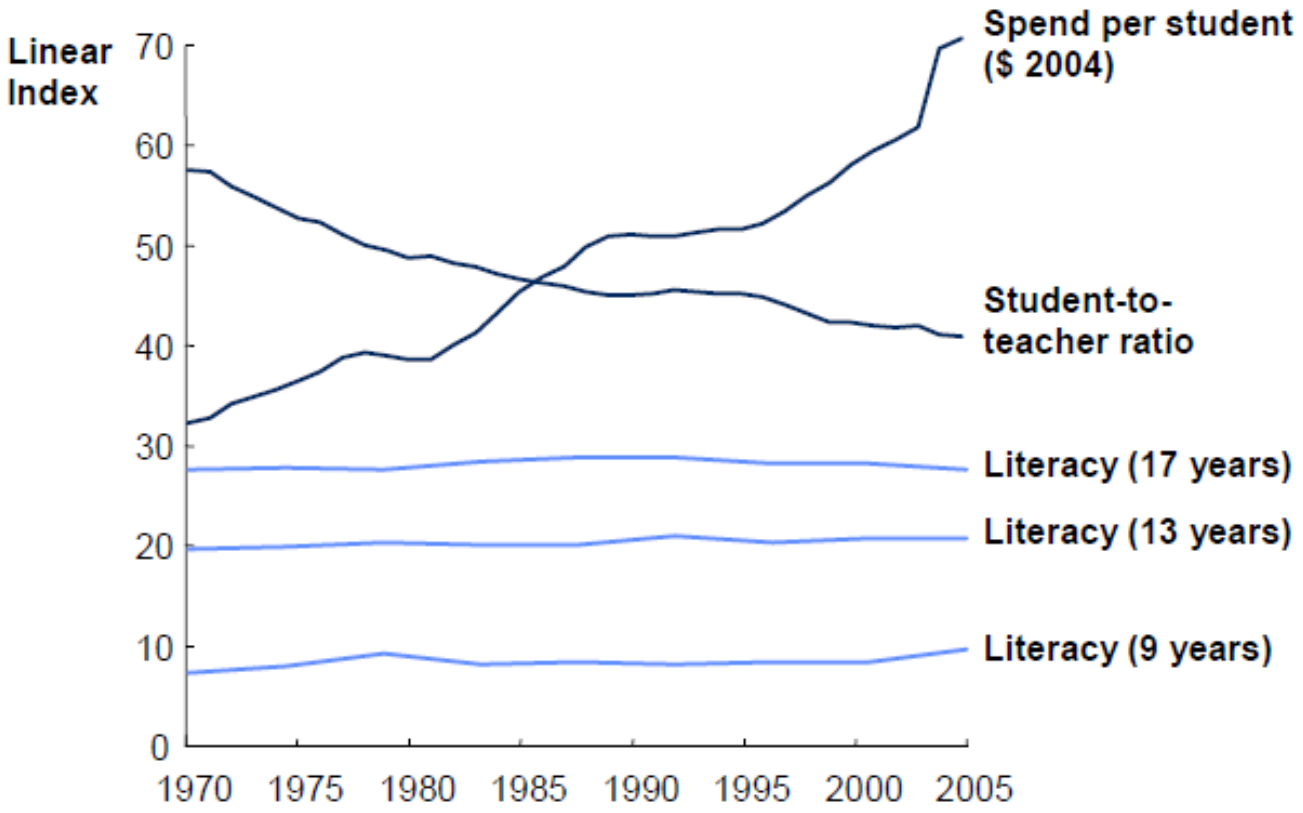
Question	Best in world
Getting the right people to become teachers	
• What is the average academic calibre of people who become teachers?	Among the top 10% of each cohort
• How is the teaching profession viewed by university students and recent graduates?	One of the top 3 career choices
• How rigorous are selection processes into teacher training?	Rigorous checks designed to assess teaching potential; e.g. teaching practice, literacy and numeracy tests
• What is the ratio of places on initial teacher education courses to applications?	1 : 10
• How does starting compensation for teachers compare to other graduate salaries?	In line with other graduate salaries
Developing effective instructors	
• What is the total amount of coaching new teachers receive in schools?	>20 weeks
• What proportion of each teacher's time is spent on professional development?	10% of working time is used for professional development
• Does each teacher have an exact knowledge of specific weaknesses in their practice?	Yes, as a result of everyday activities occurring in schools
• Can teachers observe and understand better teaching practice in a school setting?	Yes, teachers regularly invite each other into their classrooms to observe and coach
• Do teachers reflect on and discuss practice?	Yes, through both formal and informal processes in schools
• What role do school leaders play in developing effective instructors?	The best coaches and instructors are selected as leaders
• How much focused, systematic research is conducted into effective instruction and then fed back into policy and classroom practice?	Research budget equivalent to $50 per student each year focused on improving instruction
Ensuring every student performs well	
• What standards exist for what students should know, understand and be able to do?	Clear standards appropriate to system performance
• What system-wide checks exist on the quality of school performance?	All schools are aware of their strengths and weaknesses
• What action is taken to tackle underperformance?	Effective mechanisms to support all failing students; minimal performance variation between schools
• How is funding and support organized?	Funding and support are focused where it can have most impact

Source: McKinsey

1. “The quality of an education system cannot exceed the quality of its teachers”

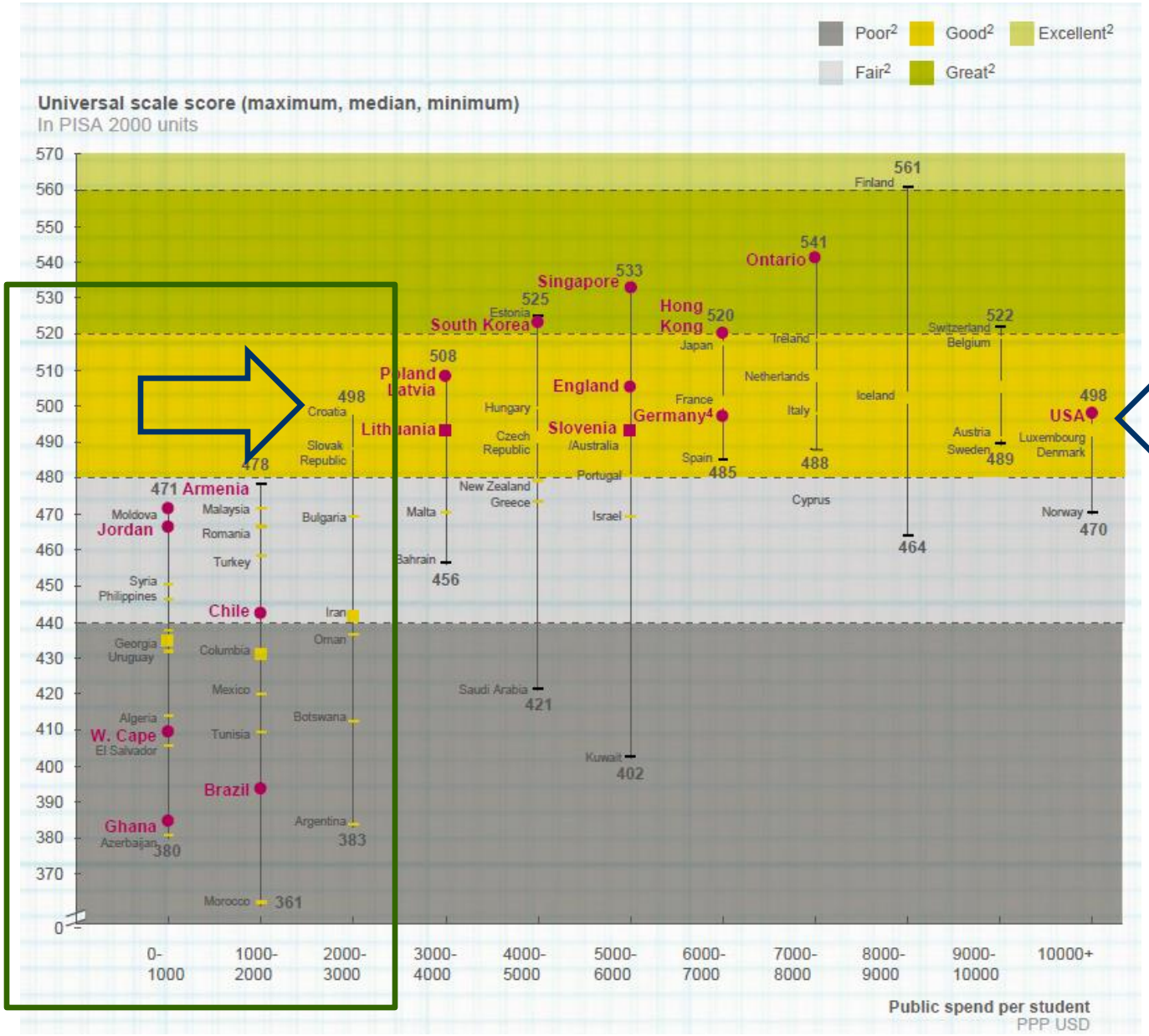
The top-performing school systems consistently attract more able people into the teaching profession, leading to better student outcomes. They do this by making entry to teacher training highly selective, developing effective processes for selecting the right applicants to become teachers, and paying good (but not great) starting compensation. Getting those essentials right drives up the status of the profession, enabling it to attract even better candidates.

Exhibit 2: U.S.: Teachers, spending and performance



Source: National Centre for Education Statistics, NEAP, Hanushek (1998)

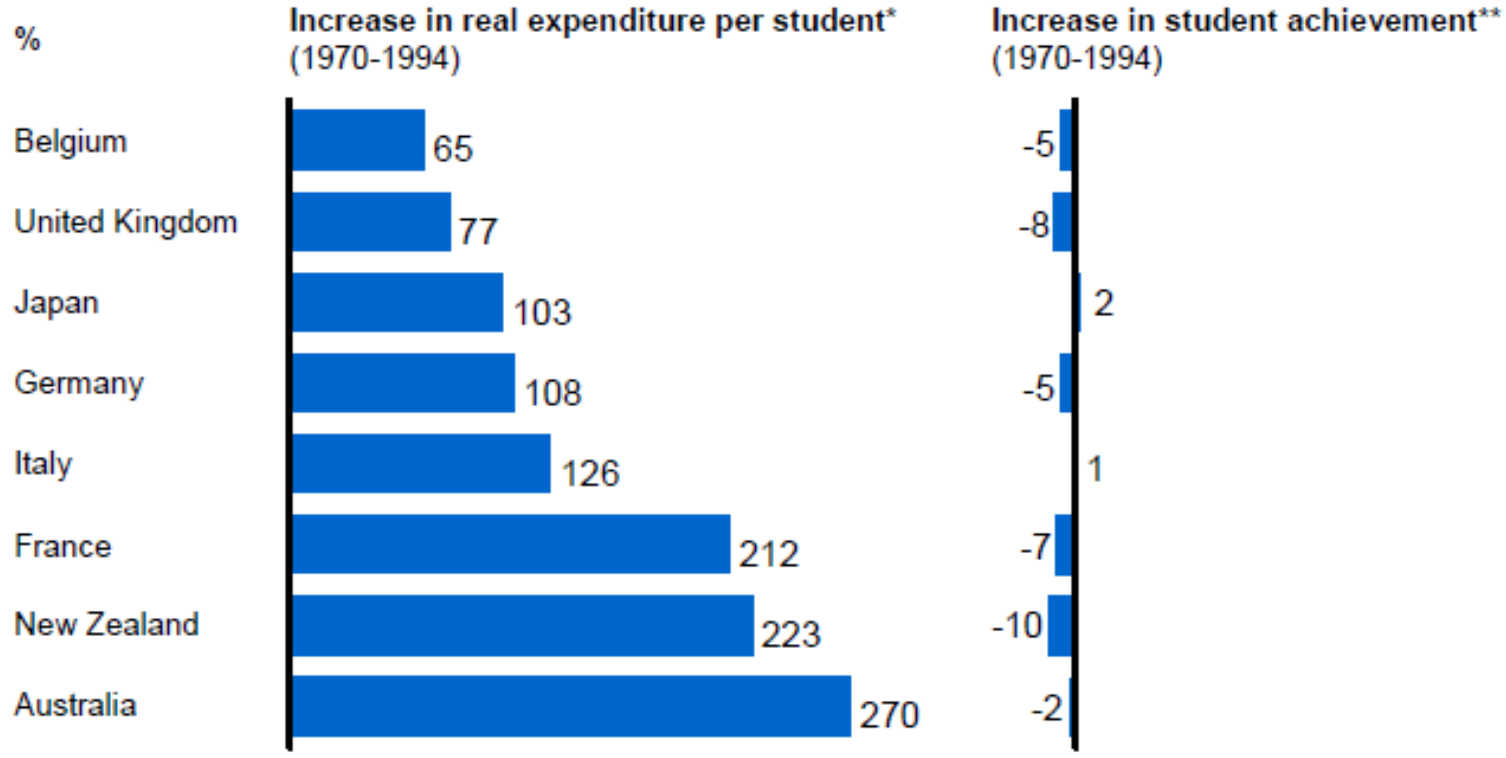
Systems with similar spend have widely ranging levels of performance



Source: Mona Mourshed, Chinezi Chijioke, Michael Barber (2010):

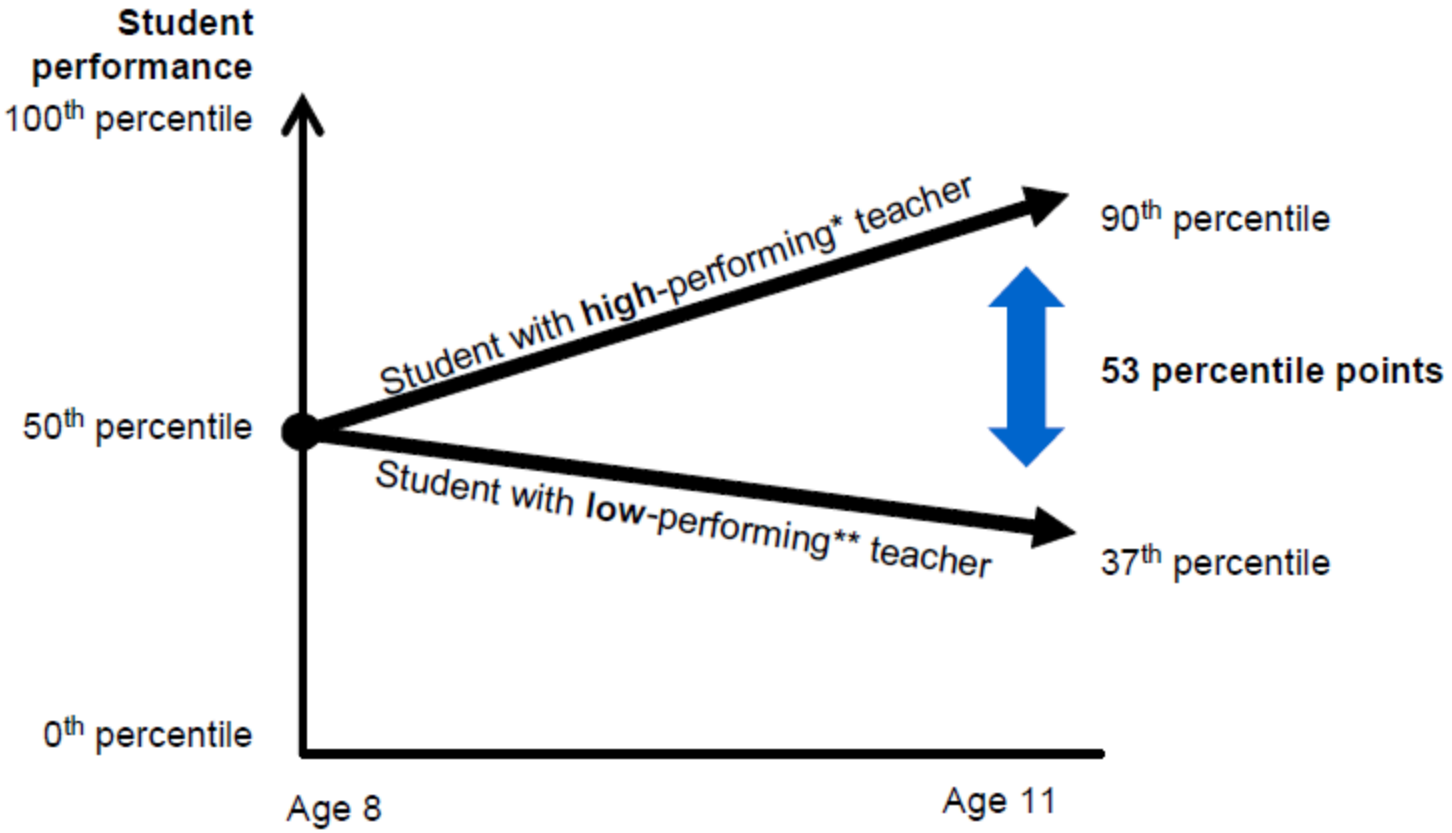
How the World's Most Improved School Systems keep Getting Better (Exibit 3)

Exhibit 3: Spending and outcomes in the OECD



*Real expenditure, corrected for the Baumol effect using a price index of government goods and service; **Math and Science
Source: UNESCO, EFA Global Monitoring Report 2005, Pritchett (2004), Woessmann (2002). McKinsey

Exhibit 5: The effect of teacher quality



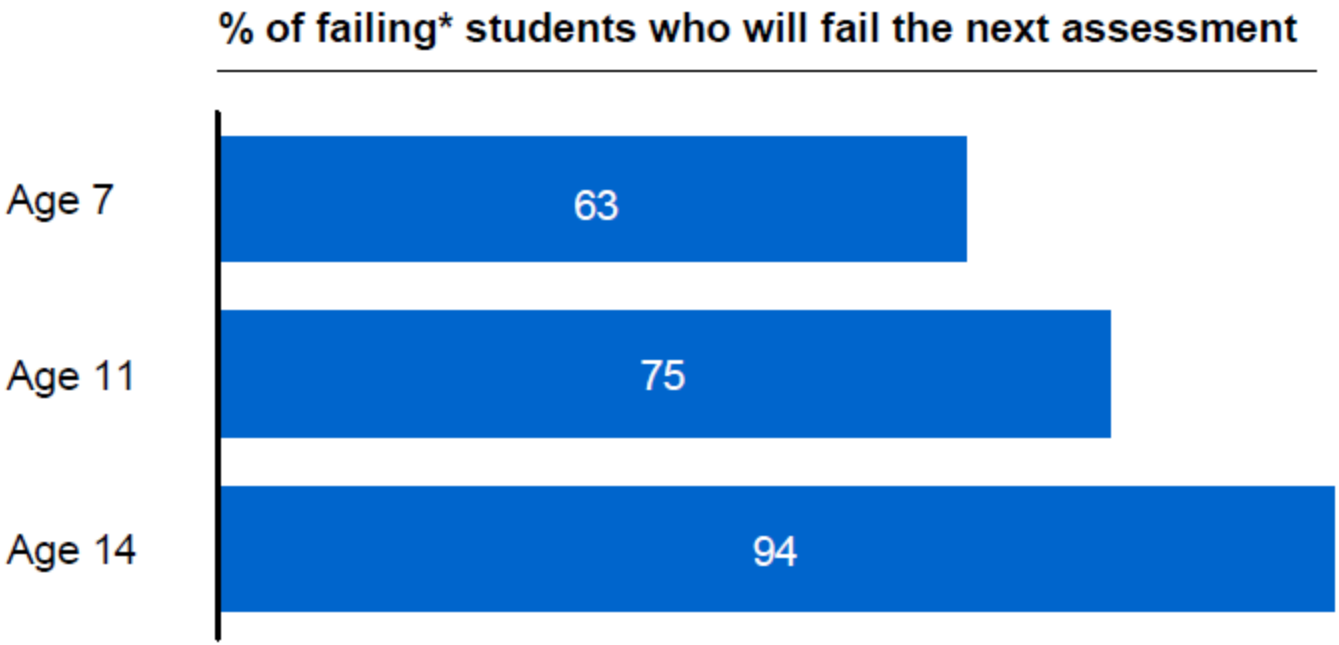
*Among the top 20% of teachers; **Among the bottom 20% of teachers

Analysis of test data from Tennessee showed that teacher quality effected student performance more than any other variable; on average, two students with average performance (50th percentile) would diverge by more than 50 percentile points over a three year period depending on the teacher they were assigned

Source: Sanders & Rivers *Cumulative and Residual Effects on Future Student Academic Achievement*, McKinsey

Exhibit 6: Cumulative impact of failure

- UK Example, 2003



*Students not meeting the target achievement standards
Source: Department for Education and Skills (UK)

2. “The only way to improve outcomes is to improve instruction”

The top-performing school systems recognise that the only way to improve outcomes is to improve instruction: learning occurs when students and teachers interact, and thus to improve learning implies improving the quality of that interaction. They have understood which interventions are effective in achieving this – coaching classroom practice, moving teacher training to the classroom, developing stronger school leaders, and enabling teachers to learn from each other – and have found ways to deliver these interventions throughout their school system.

Four approaches to help teachers improve instruction

To help teachers to:

- improve instruction,
- create awareness of weaknesses in their practice,
- provide them with a precise knowledge of best practice, and
- motivate them to make the necessary improvements.

There are broadly four approaches high-performing school systems use:

- **Building practical skills during the initial training**
- **Placing coaches in schools to support teachers**
- **Selecting and developing effective instructional leaders**
- **Enabling teachers to learn from each other**

Principal's roles!

Selecting and developing effective instructional leaders

- In general, developing effective instruction leaders in schools means doing three things:

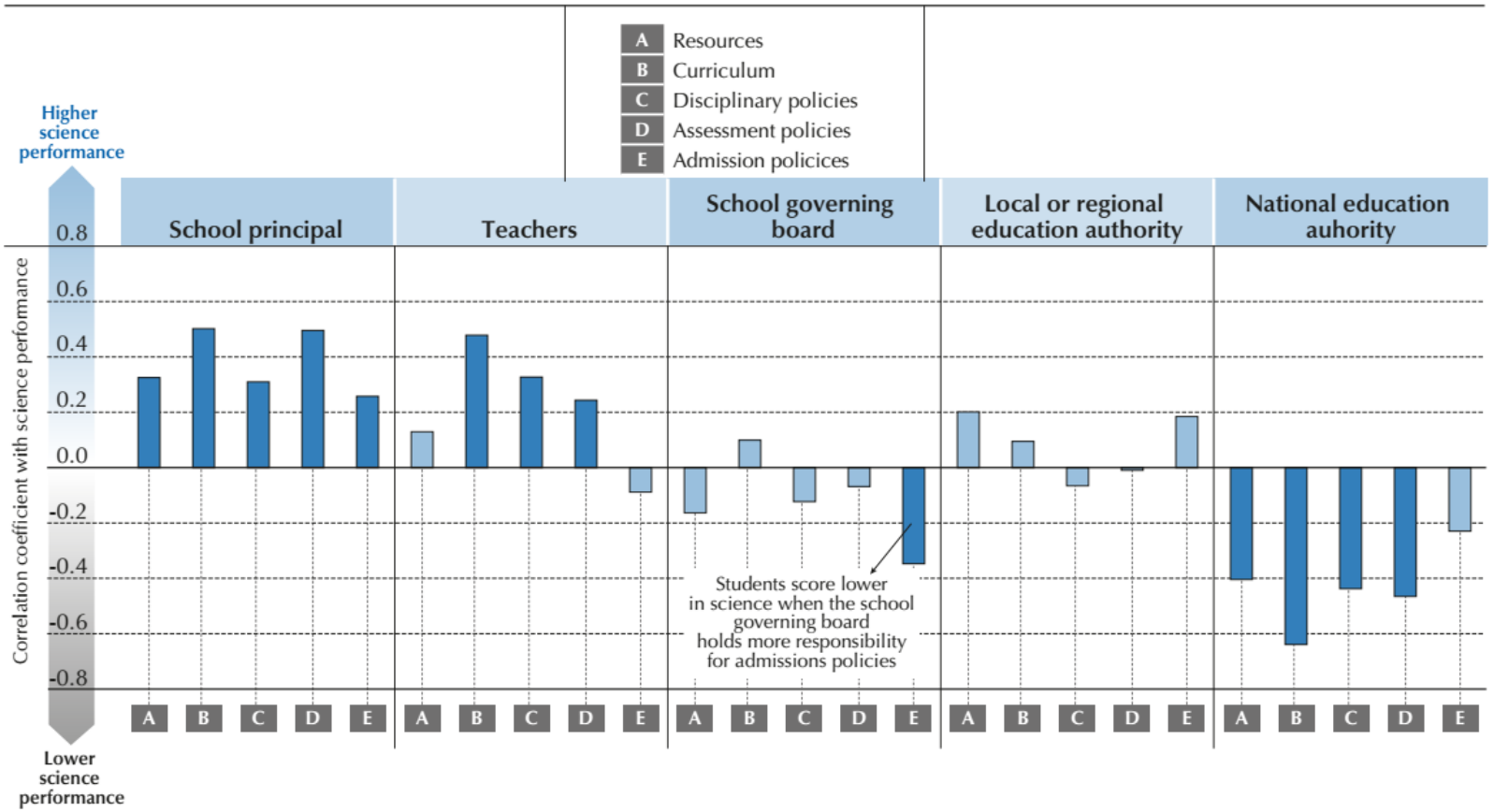
1. Getting the right teachers to become principals
2. Developing instructional leadership skills
3. Focusing each principal's time on instructional leadership.

Leadership autonomy drives performance

PISA Results 2015 (Vol. II), OECD, Paris, 2016, p. 120

Figure II.4.8 ■ **Correlations between the responsibilities for school governance and science performance**

Results based on system-level analyses



Notes: The responsibilities for school governance are measured by the share distribution of responsibilities for school governance in Table II.4.2.
Results based on 70 education systems.
Statistically significant correlation coefficients are shown in a darker tone (see Annex A3).
Source: OECD, PISA 2015 Database.

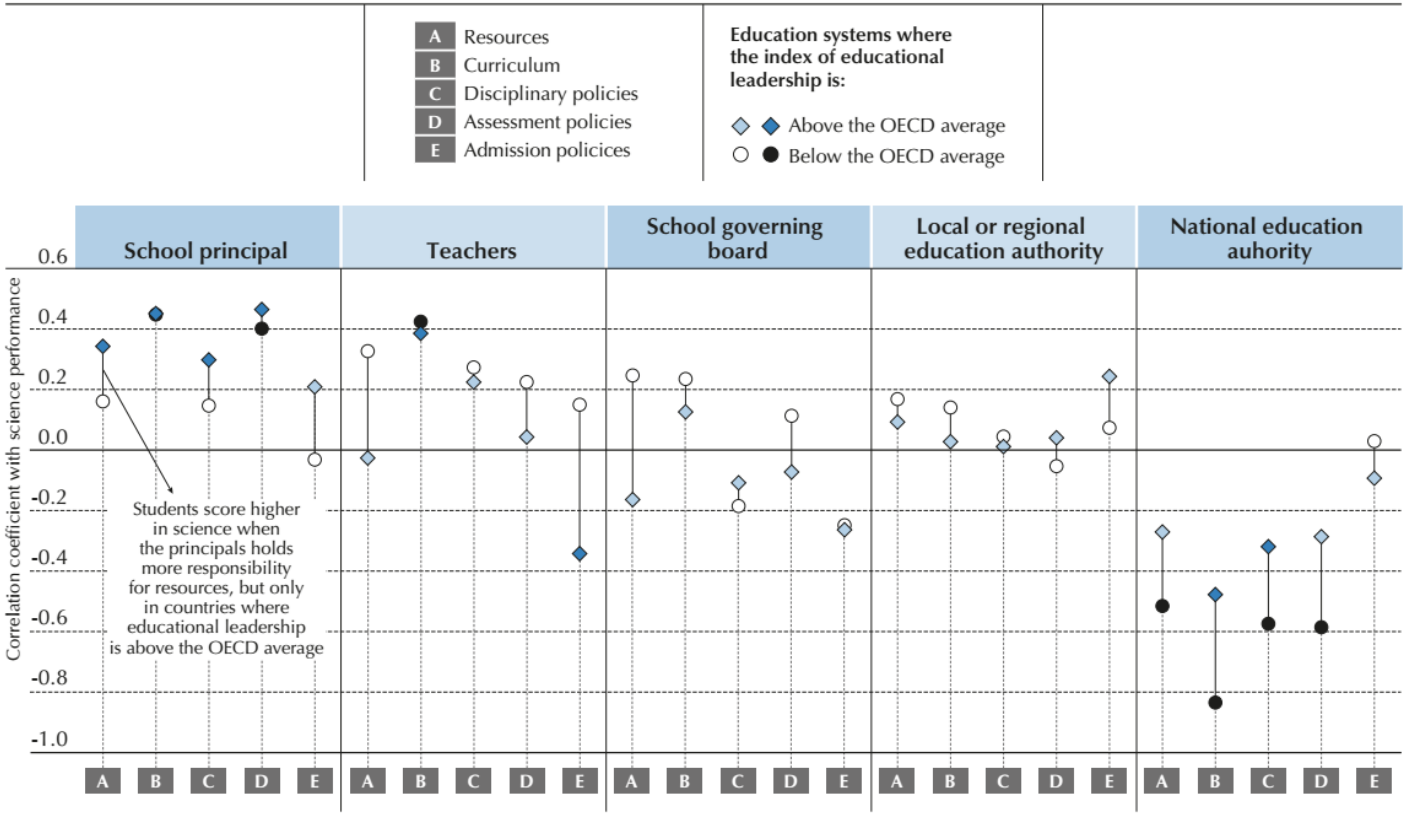
StatLink http://dx.doi.org/10.1787/888933435864

Source: PISA Results 2015 (Vol. II), OECD, Paris, 2016, p. 120

Quality of leadership drives performance

Figure II.4.10 ■ **Correlations between the responsibilities for school governance and science performance, by educational leadership**

Results based on system-level analyses



Notes: The responsibilities for school governance are measured by the share distribution of responsibilities for school governance in Table II.4.2.

Results based on 26 education systems where the index of educational leadership is below the OECD average, and 44 education systems where it is above the OECD average.

Statistically significant correlation coefficients are shown in a darker tone (see Annex A3).

Source: OECD, PISA 2015 Database.

StatLink http://dx.doi.org/10.1787/888933435885

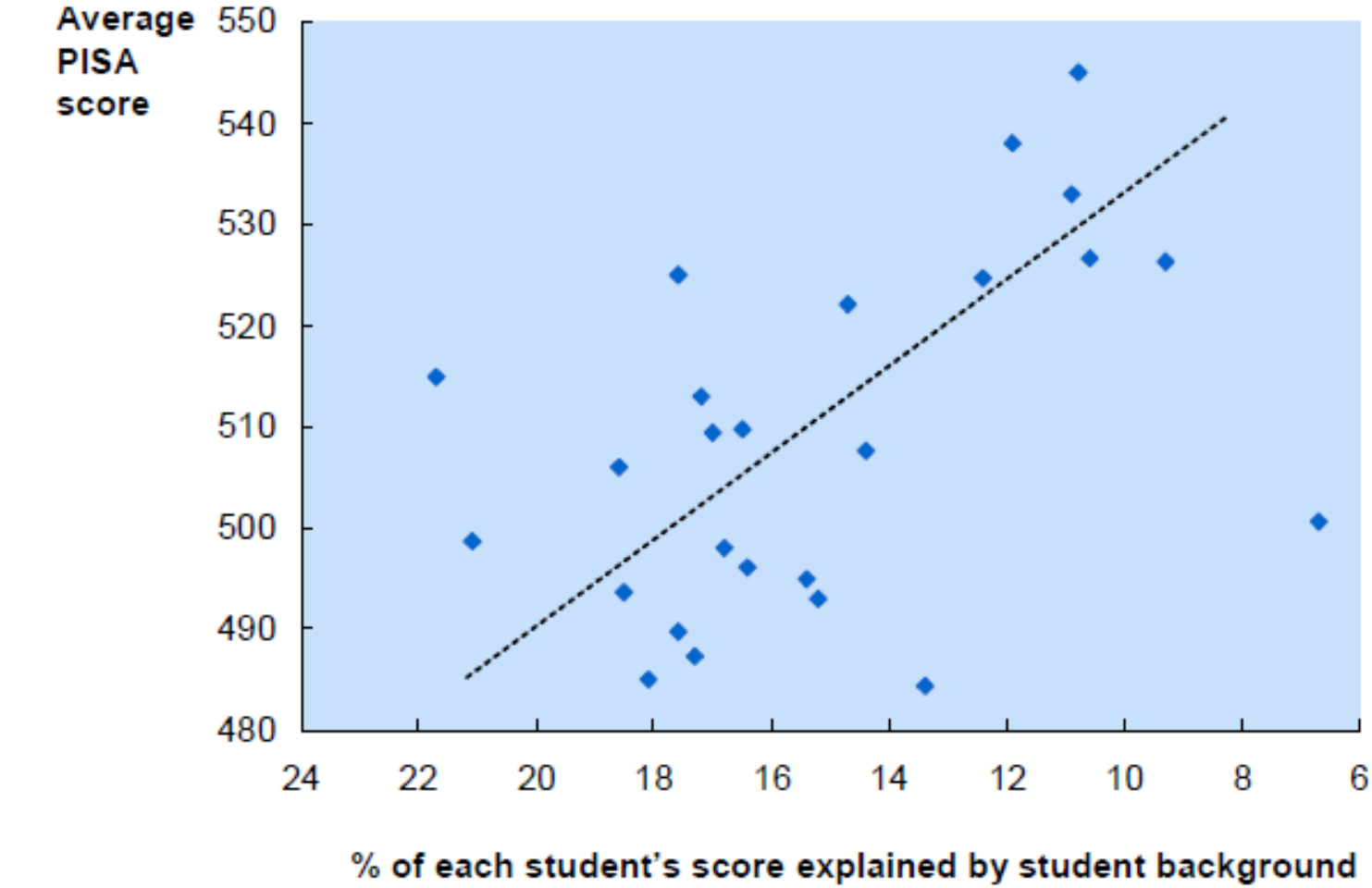
Source: Ibid., p. 121

3. "High performance requires every child to succeed"

Getting the right people to become teachers and developing them into effective instructors gives school systems the capacity they need to deliver the improved instruction that leads to improved outcomes. High-performing school systems go further than this and put in place processes which are designed to ensure that every child is able to benefit from this increased capacity. These systems set high expectations for what each and every child should achieve, and then monitor performance against the expectations, intervening whenever they are not met. High-performing school systems construct effective interventions at the level of the school, identifying schools that are not performing satisfactorily, and intervening to raise standards of performance. The very best systems intervene at the level of the individual student, developing processes and structures within schools that are able to identify whenever a student is starting to fall behind, and then intervening to improve that child's performance.

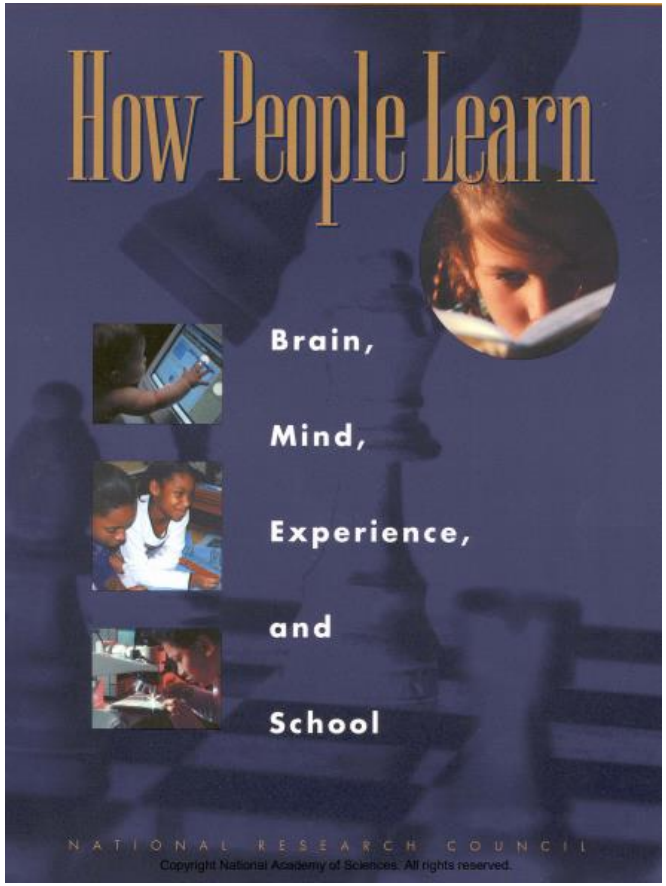
Exhibit 23: Outcomes correlated to home background – Low or inverse for the top performing systems

PISA scores and socioeconomic background for countries scoring above 480 in the PISA assessment



Source: PISA, 2003

As Far as Learning Goes – For All Students Key Findings:



- 1. Students come to the classroom with **preconceptions** about how the world works. If their initial understanding is not engaged, they may fail to grasp the new concepts and information that are taught, or they may learn them for purposes of a test but revert to their preconceptions outside the classroom.

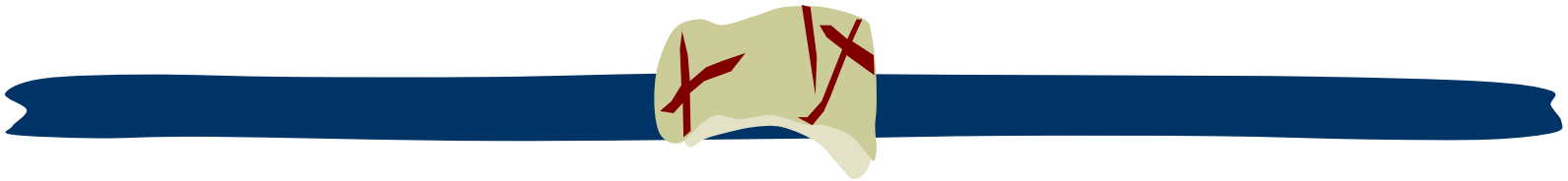
- **2. To develop competence in an area of inquiry, students must: (a) have a deep foundation of factual knowledge, (b) understand facts and ideas in the context of a conceptual framework, and (c) organize knowledge in ways that facilitate retrieval and application.**

- 3. A "**metacognitive**" approach to instruction can help students learn to take control of their own learning by defining learning goals and monitoring their progress in achieving them.

https://www.desu.edu/sites/flagship/files/document/16/how_people_learn_book.pdf

Switch

The world's most improved school systems



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Report: How the world's most improved school systems keep getting better

Almost every country has undertaken some form of school system reform during the past two decades, but very few have succeeded in improving their systems from poor to fair to good to great to excellent. This report looks closely at 20 school systems from different parts of the world, and from an array of starting points, that have registered significant, sustained, and widespread student outcome gains, and examines why what they have done has succeeded where so many others failed. In undertaking this research, we have sought to understand which elements are specific to the individual system and which are of broader or universal relevance. We believe that what we have discovered will help other systems and educational leaders to replicate this success.

Sustained improvers:

Systems that have sustained improvement with 3 of more data points over 5 or more years

Promising starts:

Systems that have started improving as represented by ongoing improvement with just 2 data points or less than five years of improvement

Systems	Reform start date[1]	Time period of student assessment data[2]	Sustained improvers	Promising starts
1. Singapore	1979	1983 – 2007	✓	
2. Hong Kong	1980	1983 – 2007	✓	
3. South Korea	1998	1983 – 2007	✓	
4. Ontario, Canada	2003	2003 – 2009	✓	
5. Saxony, Germany	1992	2000 – 2006	✓	
6. England	1997	1995 – 2007	✓	
7. Latvia	1990	1995 – 2007	✓	
8. Lithuania	1990	1995 – 2007	✓	
9. Slovenia	1992	1995 – 2007	✓	
10. Poland	1998	2000 – 2006	✓	
11. Aspire Public Schools, USA	1999	2002 – 2008	✓	
12. Long Beach, CA, USA	1992	2002 – 2009	✓	
13. Boston/Massachusetts, USA[3]	1995	2003 – 2009	✓	
14. Armenia	1995	2003 – 2007		✓
15. Western Cape, South Africa	2001	2003 – 2007		✓
16. Chile	1994	2001 – 2006		✓
17. Minas Gerais, Brazil	2003	2006 – 2008		✓
18. Madhya Pradesh, India	2005	2006 – 2010		✓
19. Ghana	2003	2003 – 2007		✓
20. Jordan	2000	1999 – 2007		✓

1 Reform start date based on dates identified by system leaders interviewed. These mark the start of interventions catalogues in the Interventions Database.
2 Refers to dates for which relevant student assessment data available, during the identified reform time period
3 Primary focus was on Boston, within the context of Massachusetts State Reforms. Start date of 1993 refer to Massachusetts (Mass State Education Reform Act of 1993) and 1995 refers to Boston (*Focus on Children I* development)

SOURCE: McKinsey & Company interventions database

Ignition Starters

Across our sample systems, the impetus required to start school system reforms – what we call ignition – resulted from one of three things:

- **The outcome of a political or economic crisis,**
- **the impact of a high-profile, critical report on the system's performance, or**
- **the energy and input of a new political or strategic leader.**

We find that fifteen out of our 20 studied systems had two of these ignition events present prior to the launch of their reform efforts.

Of the three, however, the injection of new leadership appears to be by far the most important factor: all 20 of the systems studied here have relied upon the presence and energy of a new leader to jumpstart their reform program. New technical leaders were present in all of our sample systems, and new political leaders present in half. These new leaders tend to follow a common "playbook" of practices upon entering office. Once installed, they have staying power: the median tenure of the new strategic leaders is six years and that of the new political leaders is seven years, thereby enabling continuity in the reform process and development of the system pedagogy. This is in stark contrast to the norm. For example, the average tenure for superintendents of urban school districts in the U.S. is nearly three years; the tenure of education secretaries in England is just two years on average, similar to that of education ministers in France.