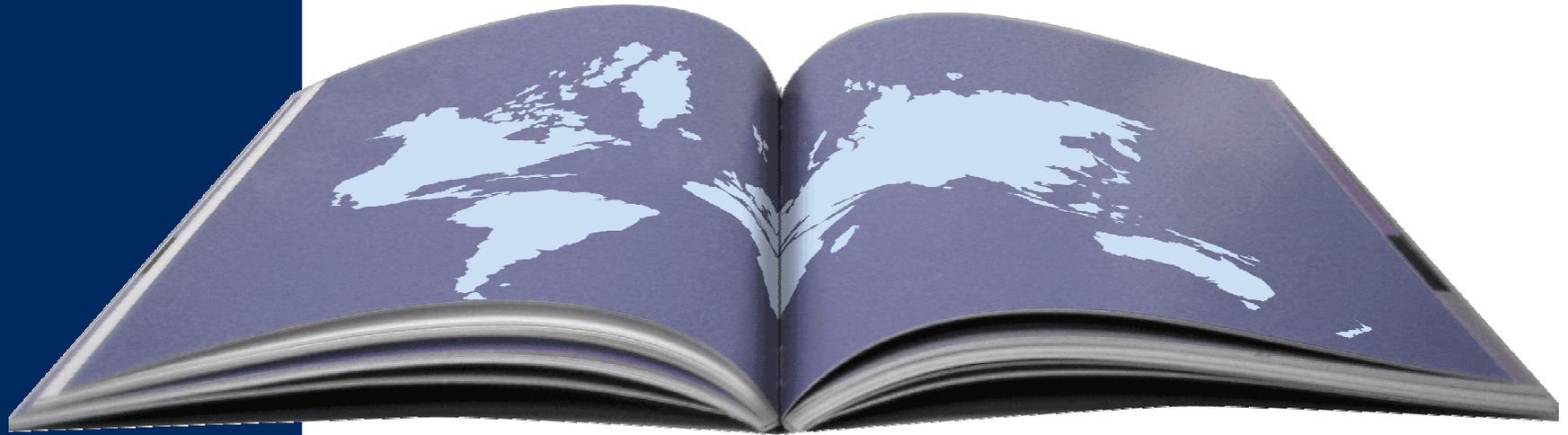


CONFIDENTIAL

How the world's best-performing school systems come out on top

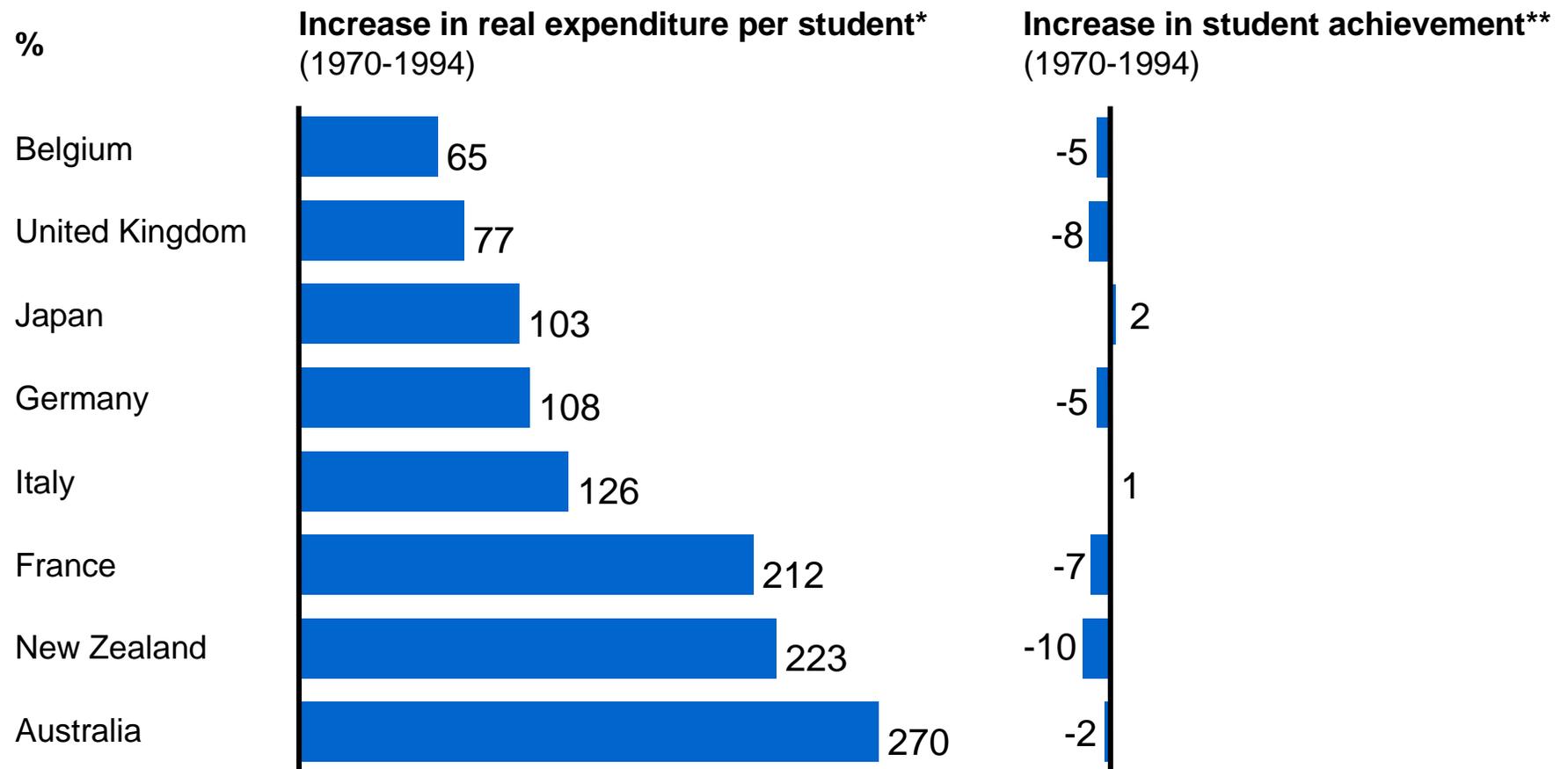


February 29, 2008

This report contains information that is confidential and proprietary to McKinsey & Company, Inc. and is solely for the use of McKinsey & Company, Inc. personnel. No part of it may be used, circulated, quoted, or reproduced for distribution outside McKinsey & Company, Inc. If you are not the intended recipient of this report, you are hereby notified that the use, circulation, quoting, or reproducing of this report is strictly prohibited and may be unlawful.

The Challenge

Despite high spending increases in OECD, education outcomes have stagnated

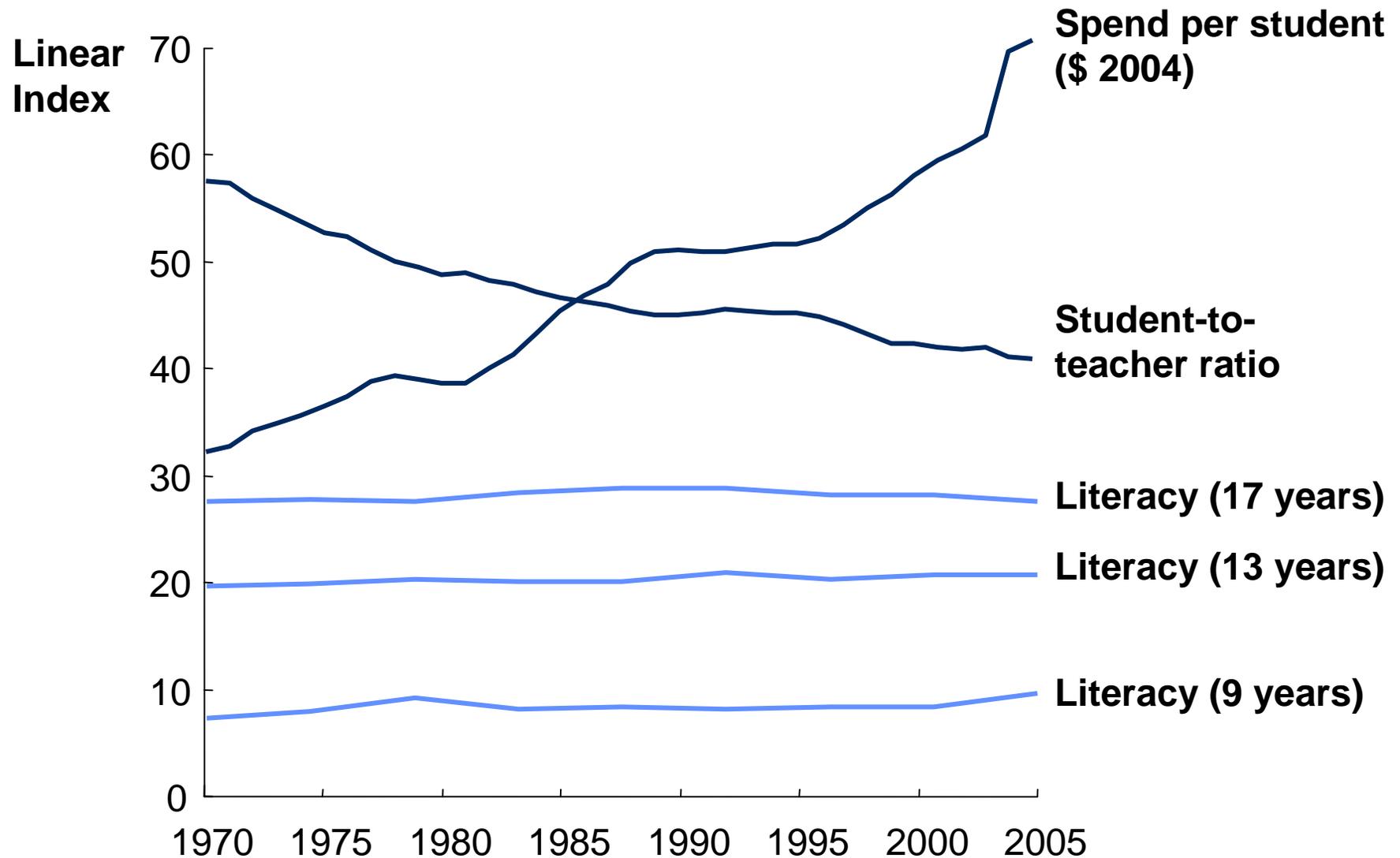


* Real expenditure, corrected for the Baumol effect using a price index of government goods and service

** Math and Science

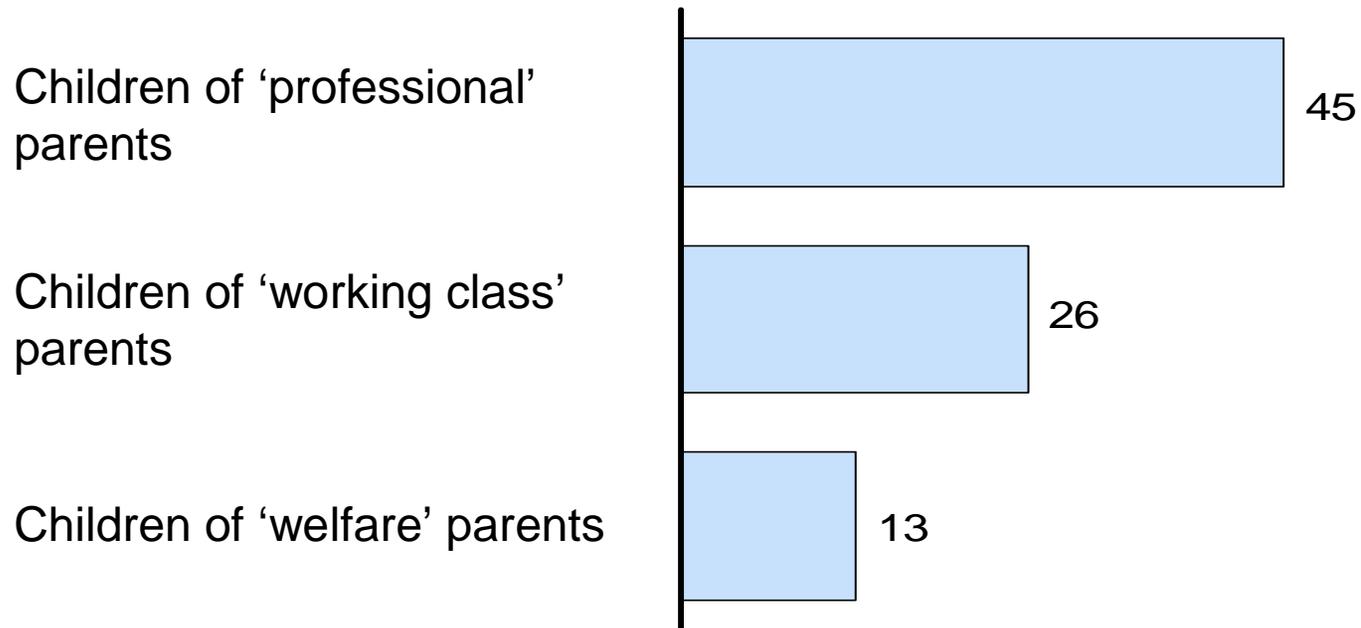
Source: UNESCO, EFA Global Monitoring Report 2005, Pritchett (2004), Woessmann (2002). McKinsey analysis

Similarly, the US has experienced stagnant outcomes despite rising spend per student



The skill impact of socio-economic differences is significant by as early as age four

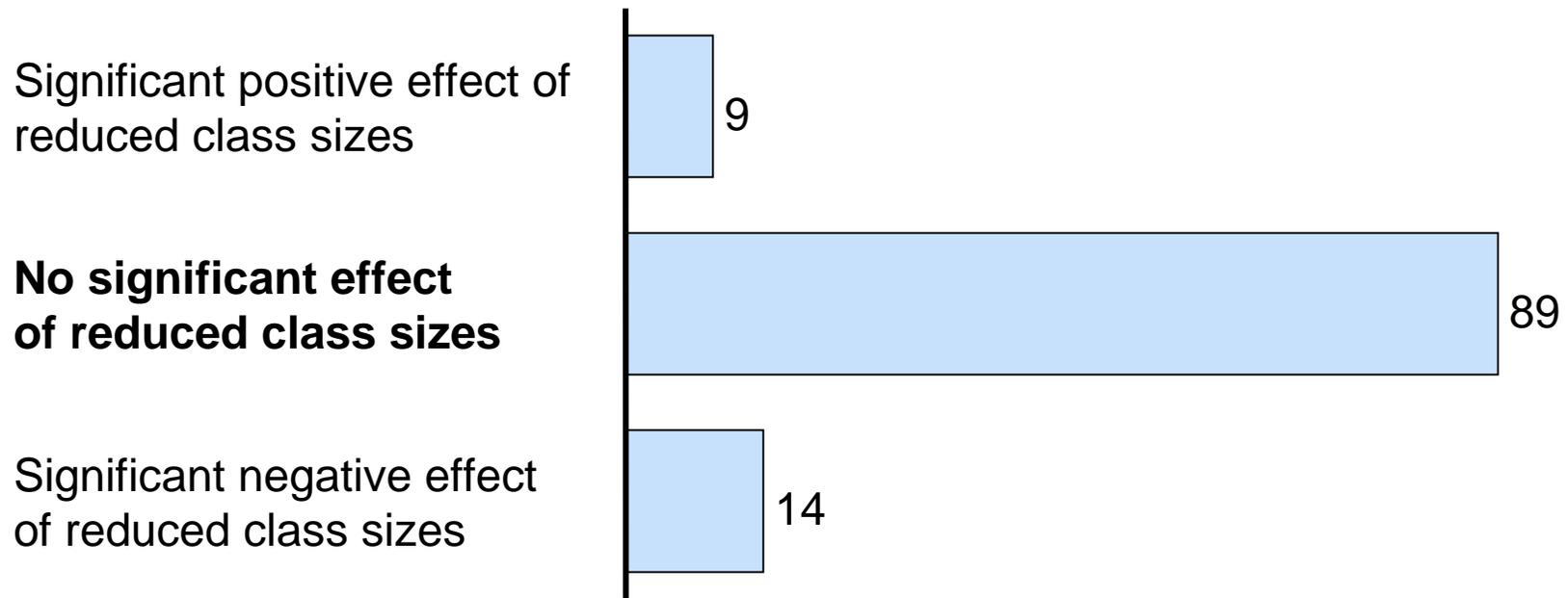
*Number of words (millions) heard by child at age four**



* Based on longitudinal research of 42 families in Kansas City
Source: Betty Hart and Todd Risley, 1995

Popular reforms have not improved student outcomes: Class size

Of 112 studies that have examined the effects of class size on student achievement ...

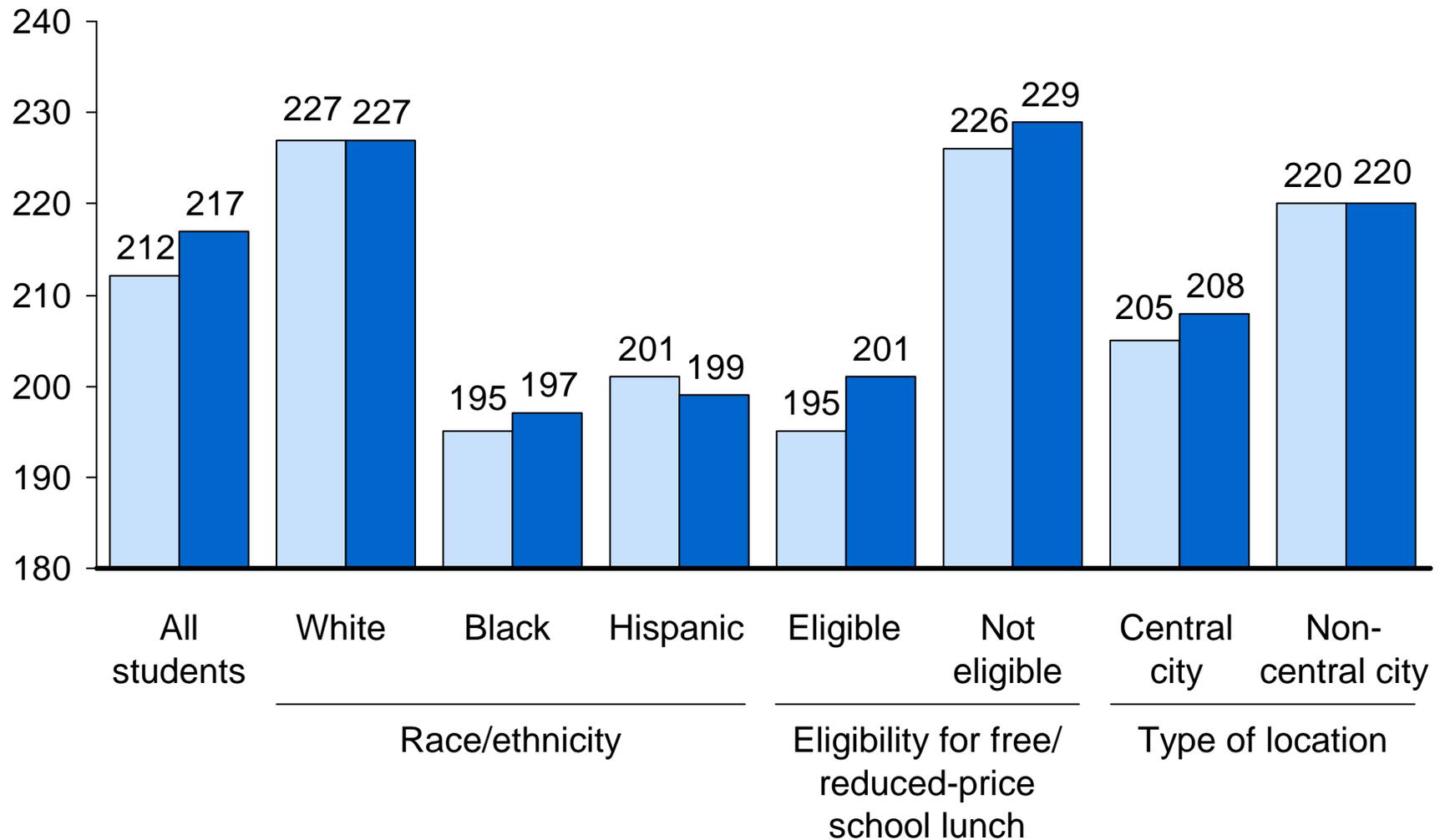


“variations in teacher quality completely dominate any effect of altered class size”

Popular reforms have not improved student outcomes: Autonomy

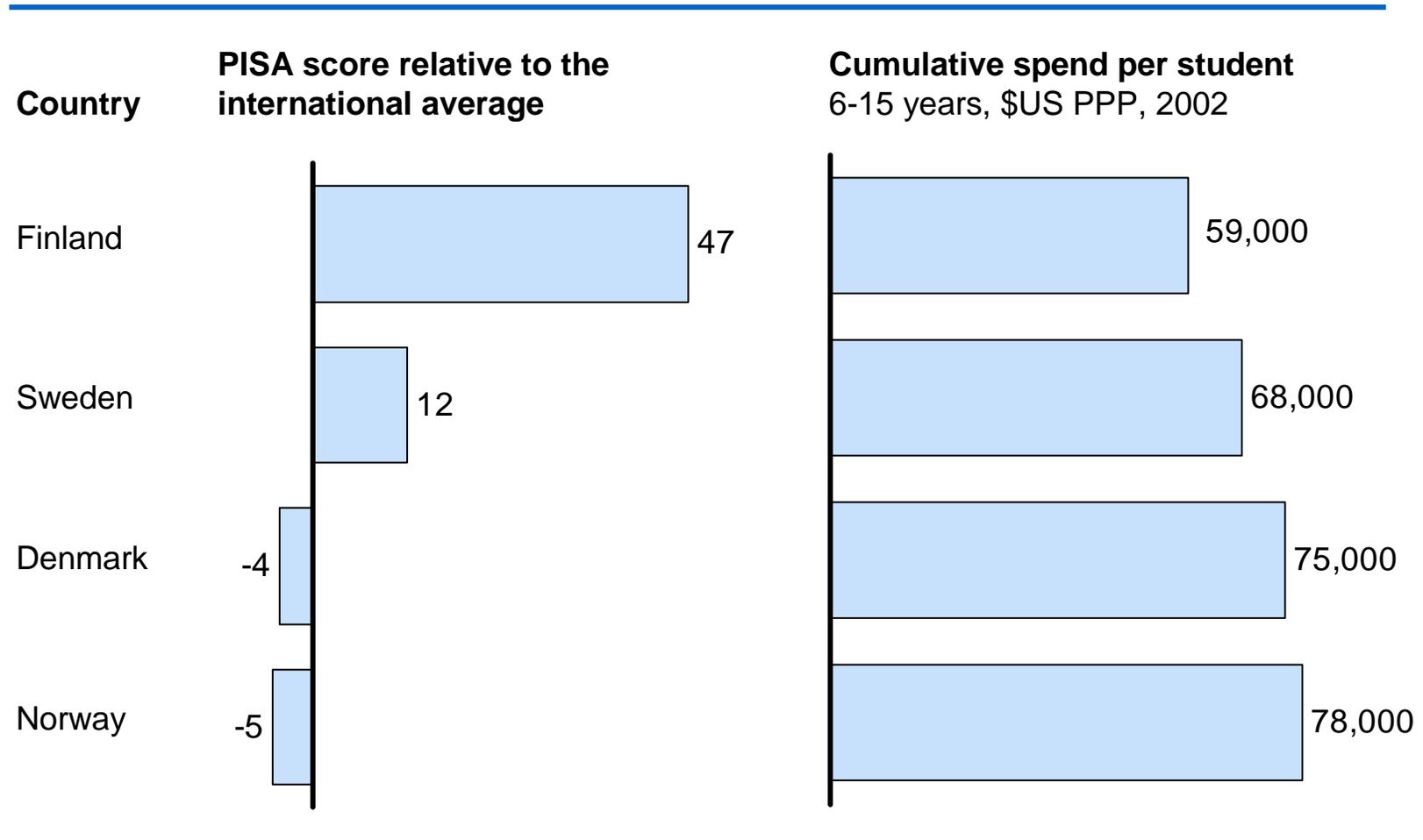
NAEP scores in reading for charter schools and public schools, Grade 4, 2003

■ Charter school students
■ Other public school students



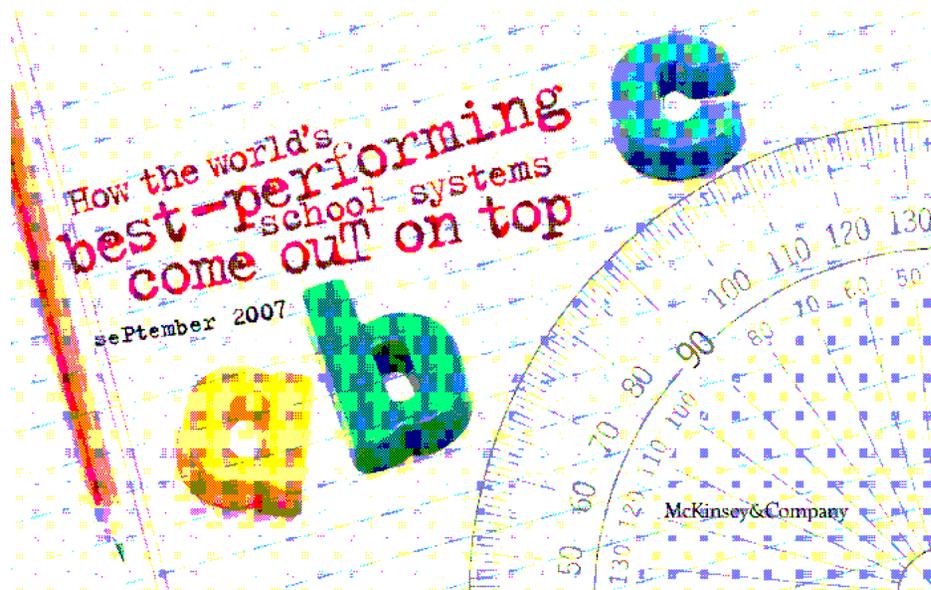
Source: NAEP: America's Charter Schools: Results from the NAEP 2003 Pilot Study; NAEP, A Closer Look at Charter Schools using Hierarchical Linear Modelling (2006)

Popular reforms have not improved student outcomes: Spend



The Evidence

This is the theme of our recent publication: 'How the world's best-performing school systems come out on top'



The Economist, Oct 18, 2007

How to be top

What works in education: the lessons according to McKinsey

THE British government, says Sir Michael Barber, once an adviser to the former prime minister, Tony Blair, has changed pretty much every aspect of education policy in England and Wales, often more than once. "The funding of schools, the governance of schools, curriculum standards, assessment and testing, the role of local government, the role of national government, the range and nature of national agencies, schools admissions"—you name it, it's been changed and sometimes changed back. The only thing that hasn't changed has been the outcome. According to the National Foundation for Education Research, there had been (until recently) no measurable improvement in the standards of literacy and numeracy in primary schools for 50 years.

We benchmarked 20 school systems, including ten of the world's top performers

Systems in the top ten in the OECD's PISA (2003)¹

- Alberta²
- Australia
- Belgium
- Finland
- Hong Kong
- Japan
- Netherlands
- New Zealand
- Ontario²
- Singapore³
- South Korea

Systems with strong improvement trajectory⁴

- Atlanta
- Boston
- Chicago
- England
- Jordan
- New York
- Ohio

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

1. OECD's Programme for International Student Assessment, examination every three years of reading, math, and science skills of 15-year olds. Liechtenstein and Macao also scored in the top ten in 2003 but were excluded for technical reasons.

2. Canada scored 5th overall on PISA; Alberta and Ontario were included as representative provinces

3. Singapore did not participate in PISA; Singapore scored top in both science and mathematics in TIMSS 2003

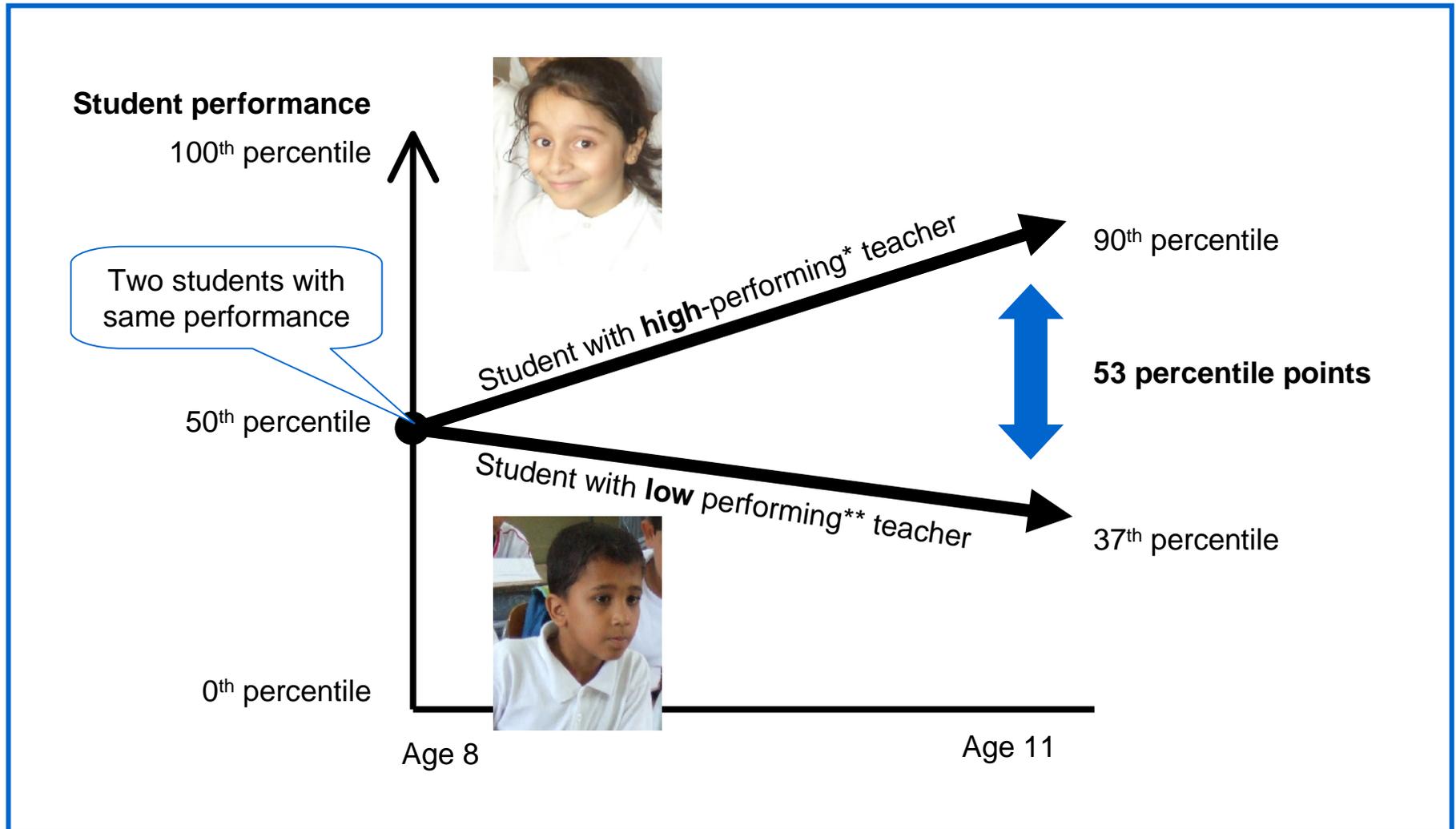
4. Systems with high improvement rates according to the US National Assessment of Educational Progress (NAEP) or TIMSS scores. In addition, Boston and New York have been consistent finalists of the Broad Prize for Urban Education

Source: PISA, McKinsey

Lesson 1

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

Teacher quality is the most important lever for improving student outcomes US EXAMPLE



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

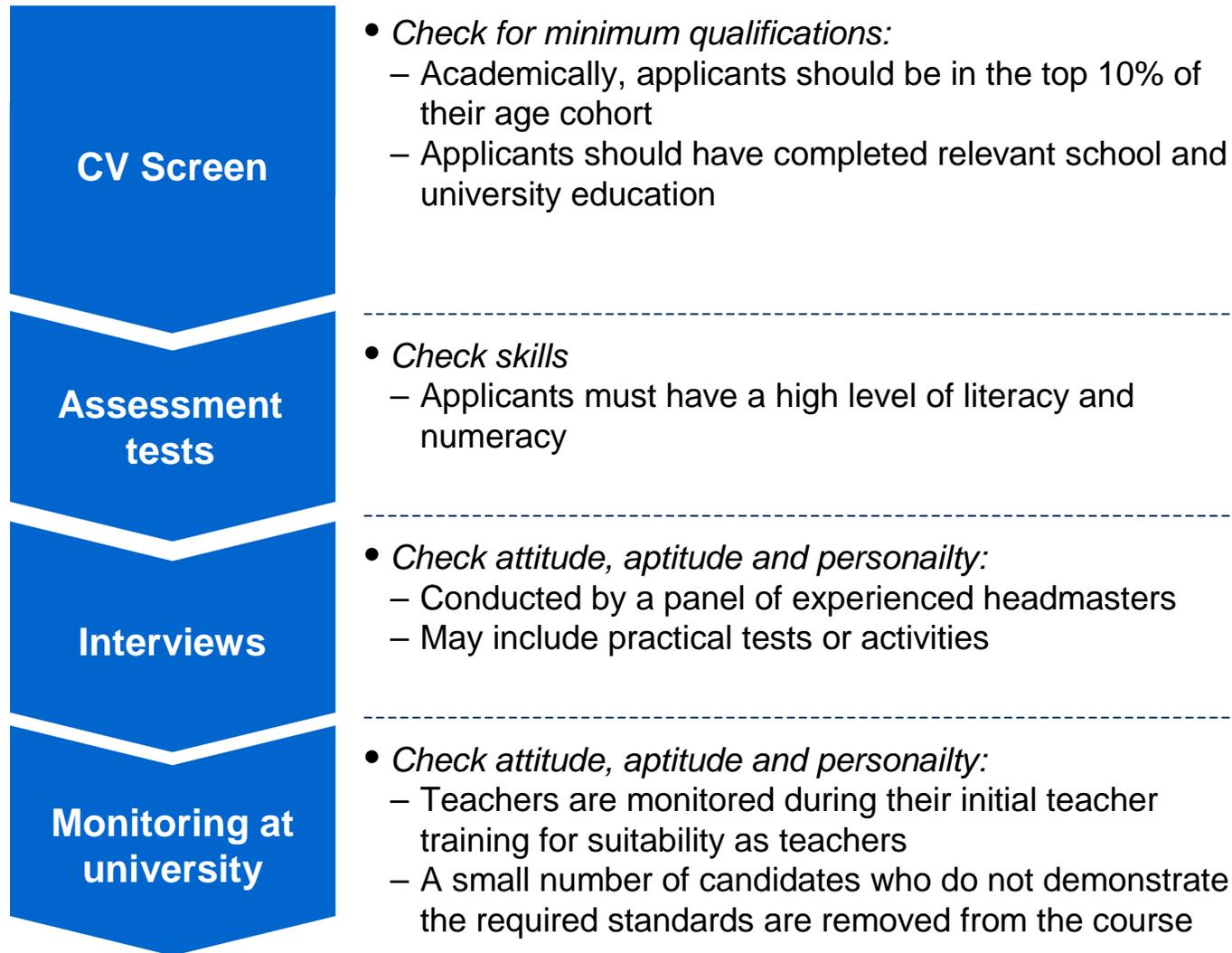
Analysis of test data from Tennessee showed that teacher quality effected student performance more than any other variable; on average, two students with average performance (50th percentile) would diverge by more than 50 percentile points over a three year period depending on the teacher they were assigned

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

Great school systems attract great people into teaching

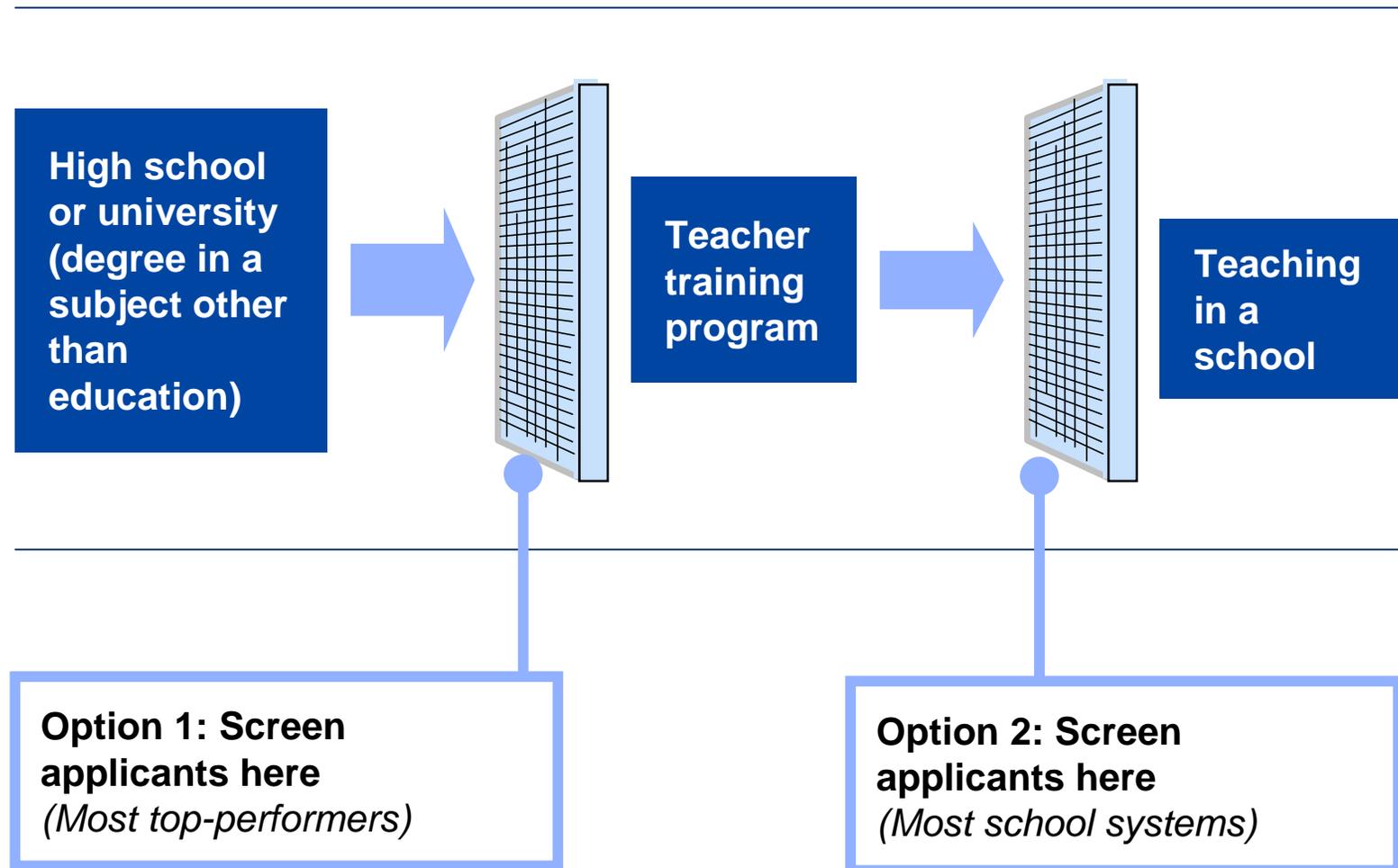
Country	Teacher pool composition
<ul style="list-style-type: none">• Korea• Finland• Singapore/ Hong Kong	<ul style="list-style-type: none">• The top 5 percent of graduates• The top 10 percent of graduates• The top 30 percent of graduates

Top-performing systems made it difficult to become a teacher: Finland



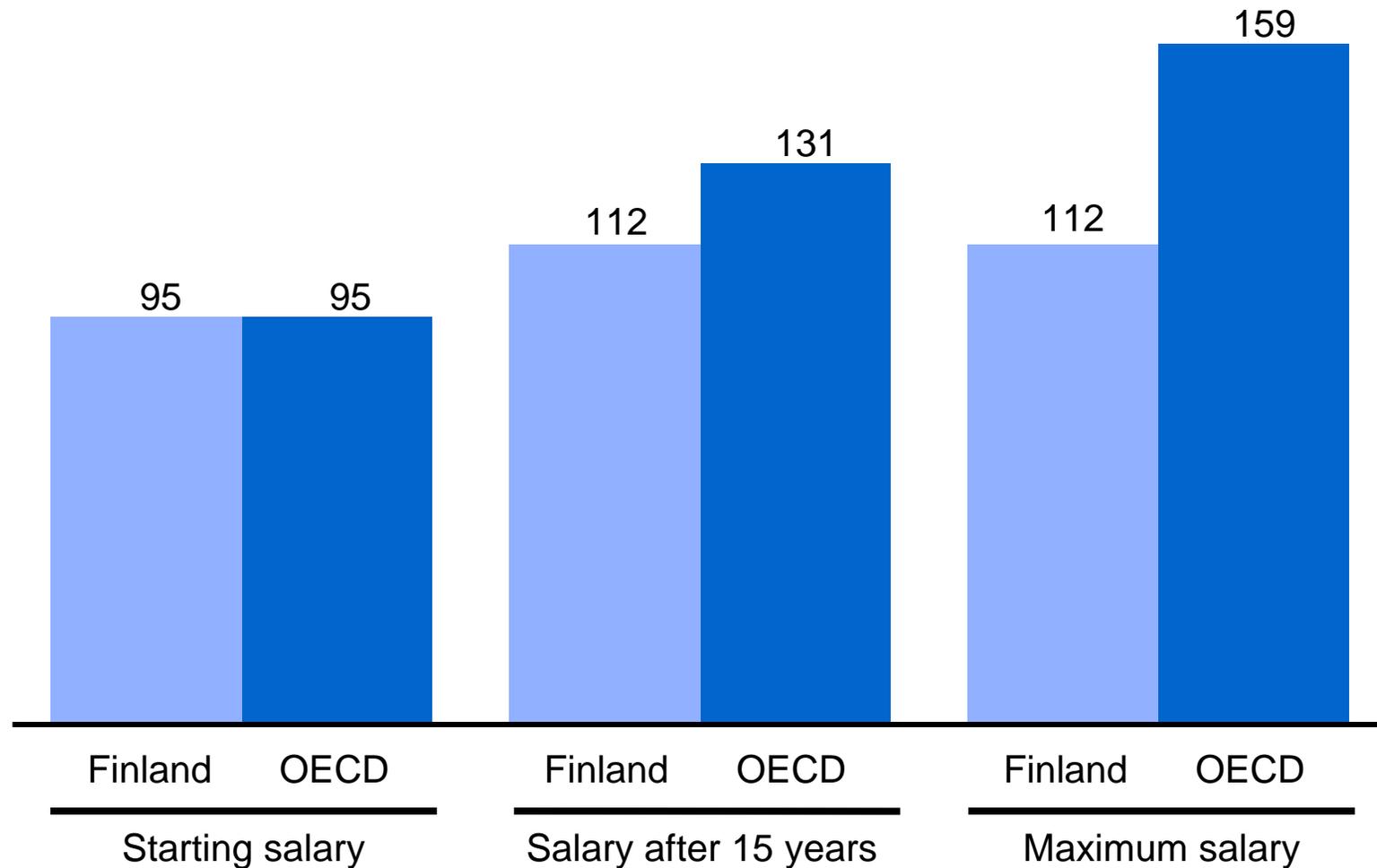
Only 1 in 10 applicants is accepted to become a teacher

Top-performers carefully managed entry into the profession to maintain a high status (1/2)



Top-performers paid good salaries, but not great salaries

Primary teacher salary as a % of GDP per capita



Top-performers position teaching as a prestigious profession: England

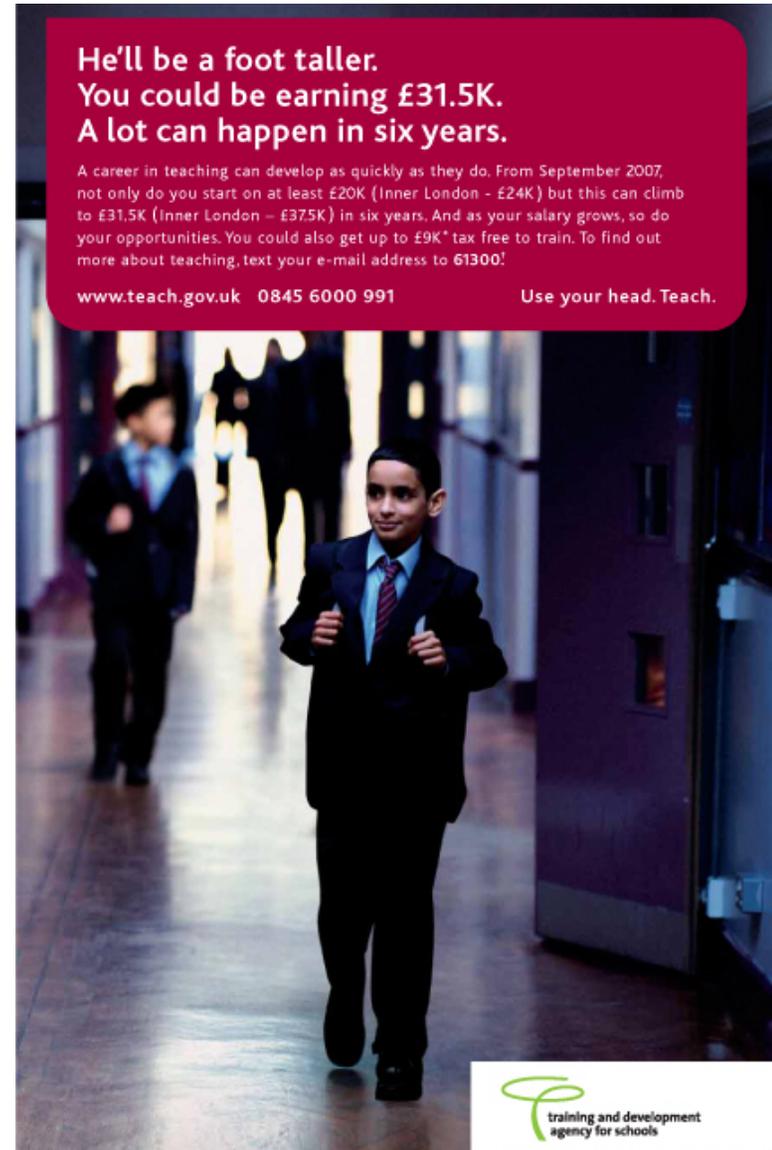


And you thought magnesium was reactive.

0845 6000 991
www.teach.gov.uk Use your head. Teach.

training and development agency for schools

This advertisement features a group of five students in maroon school uniforms and safety goggles, looking intently at a chemistry experiment. A red text box is overlaid on the top left of the image.



He'll be a foot taller.
You could be earning £31.5K.
A lot can happen in six years.

A career in teaching can develop as quickly as they do. From September 2007, not only do you start on at least £20K (Inner London - £24K) but this can climb to £31.5K (Inner London - £37.5K) in six years. And as your salary grows, so do your opportunities. You could also get up to £9K* tax free to train. To find out more about teaching, text your e-mail address to 61300!

www.teach.gov.uk 0845 6000 991 Use your head. Teach.

training and development agency for schools

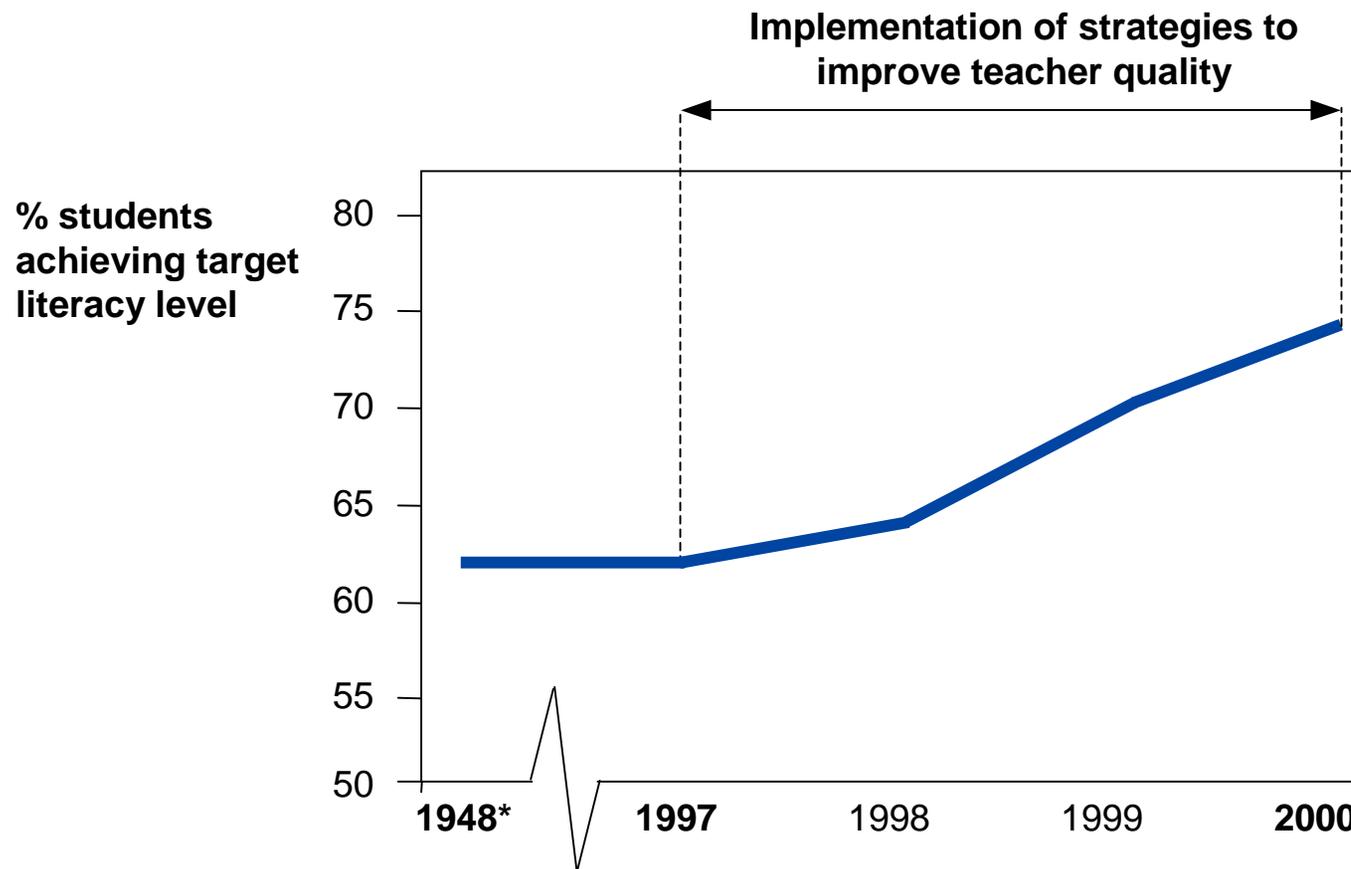
This advertisement features a young boy in a dark suit and tie walking down a school hallway. A red text box is overlaid on the top left of the image.

Lesson 2

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

Improving teacher quality can have substantial impact in a short time frame (1/2)

There had been no improvement in literacy levels in English schools for 50 years. A strategic approach to raising teacher quality lead to significant improvements in just 3 years.

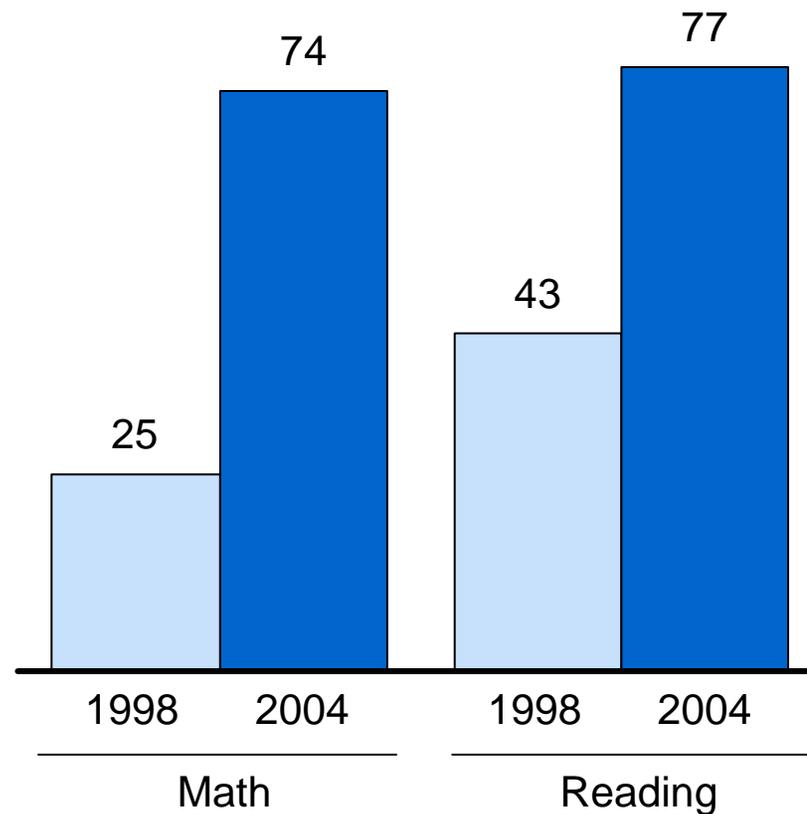


* Literacy levels prior to the introduction of national assessments were extrapolated from available data sources

Source: Department for Education and Skills (UK), *Trends in Standards of Literacy and Numeracy in the United Kingdom 1948-1996*, McKinsey analysis

Improving teacher quality can have substantial impact in a short time frame (2/2)

% of Boston students meeting the target standard in Grade 10 MCAS*



* Massachusetts state assessment exam

Source: Boston Public Schools

Top-performers took professional development inside the classroom

Professional Development in Shanghai and Japan

Enabling teachers to share best practice, learn from each others strengths and weaknesses, and jointly develop and disseminate excellent practice

Peer observation: All teachers in Shanghai are required to visit and observe at least eight lessons by colleagues each term. The requirement makes visiting other teachers' classrooms, observing their practice, and helping them to improve the norm in Shanghai schools

Lesson study: Teachers in both Shanghai and Japan work in teams to analyse and develop model lessons. The study requires each teacher to reflect in depth on their own practice, with the assistance of their peers. The final sample lessons are recorded and distributed.

Demonstration lessons: Teachers demonstrate excellent practice to a wider group of instructors, followed by discussion and feedback sessions. The lessons are used to give each teacher access to examples of excellent practice, to recognise development, and to hold teachers accountable for the quality of their instruction

Lesson 3

“High performance requires every child to succeed.”

Inspections and examinations enable schools to continuously track their performance and improve

School System	School review/ inspections*	System-wide assessments**	School exit examinations**
Alberta			
Boston			
Chicago			
England			
Finland			
Hong Kong			
Korea			
Netherlands			
New York			
New Zealand			
Singapore			

-  Not separated
-  Separate unit within Ministry
-  External organization

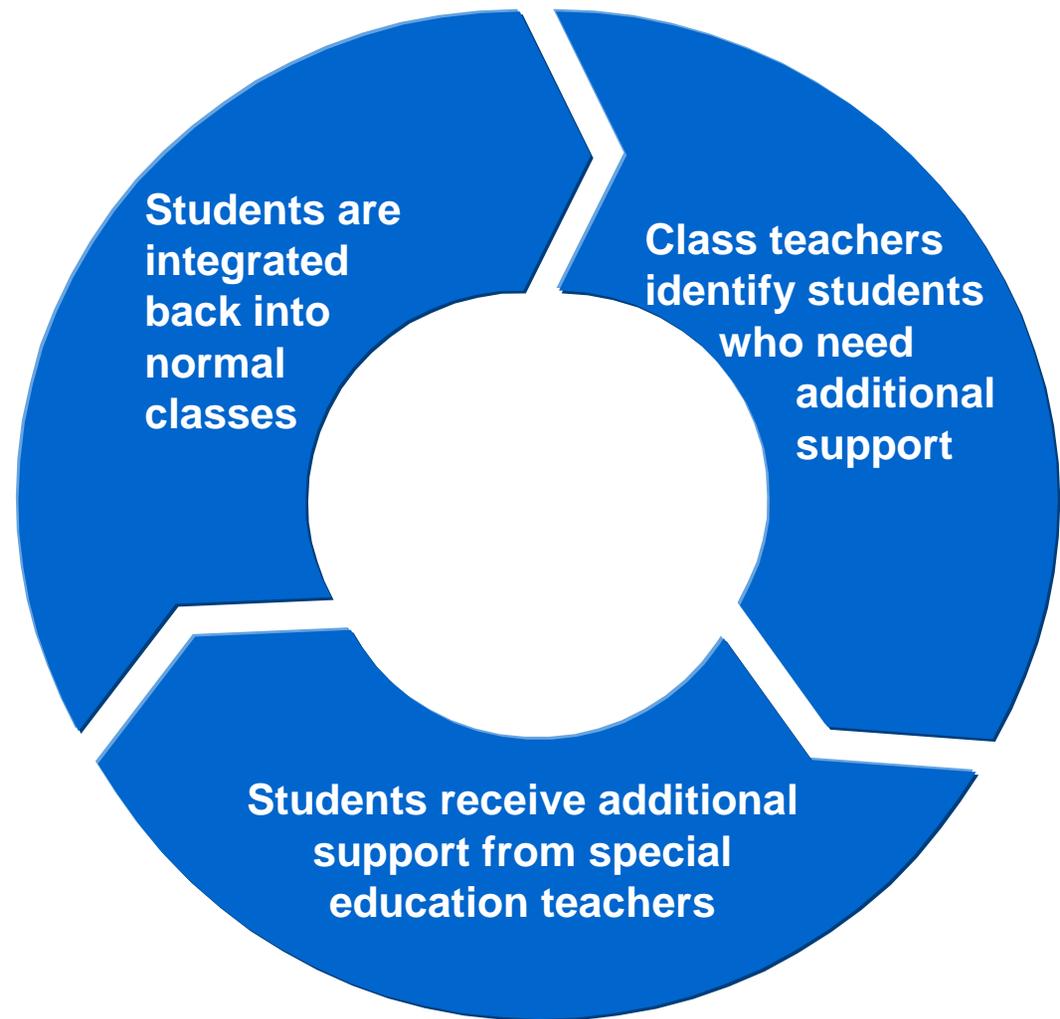
* Formal school reviews conducted by a person to whom the school is not directly accountable

** Assessments of students during the first 10 grades; School Exit examinations refers to leaving qualifications

Source: Interviews, McKinsey analysis

Finland's Special Education identifies students in need and provides them with intensive support

- Additional 1-on-1 or small group tuition to support those who are falling behind (called 'special education')
- 30% of all students will receive special education during any given year
- Most special education is focused on Mathematics and Finnish language
- Special education teachers receive an additional year of training and are paid slightly higher salaries
- Special education teachers work with a wider support team – psychologists, nurses, special needs advisors - to provide a comprehensive support



Lesson 4

“Every school needs a great leader”

Top-performers recruit and train excellent school leaders: Singapore

“We train our teachers and vice-principals to apply best practices; we train our principals to create them”

6 month programme to develop new principals

- **Management and leadership courses** taken from leading executive training programmes
- **One day a week in schools** where candidates are assigned to develop innovative approaches to the toughest problems
- **Group projects** where candidates work in teams
- **2-week overseas placement** with a major corporation (e.g., IBM, HP, Ritz Carlton), where they shadow top private-sector executives
- **Rigorous evaluation** – only candidates who demonstrate the required competencies will succeed