

Equity, small data and school leadership

Skoleledelse som virker - Hva kan vi lære av
internasjonale skoleforskere?

NORWAY

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SESSION A

Leadership for equity



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A short history of equity in education

EQUALITY OF EDUCATIONAL OPPORTUNITY

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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
John W. Gardner, Secretary
OFFICE OF EDUCATION, Harold Howe II, Commissioner

EFFECTIVE SCHOOLS: "Schools matter"

- Strong administrative leadership
- High expectations
- An orderly atmosphere
- Basic skills acquisition as the school's primary purpose
- Capacity to divert school energy and resources to advance the school's basic purpose
- Frequent monitoring of pupil progress



OECD-PISA



1970

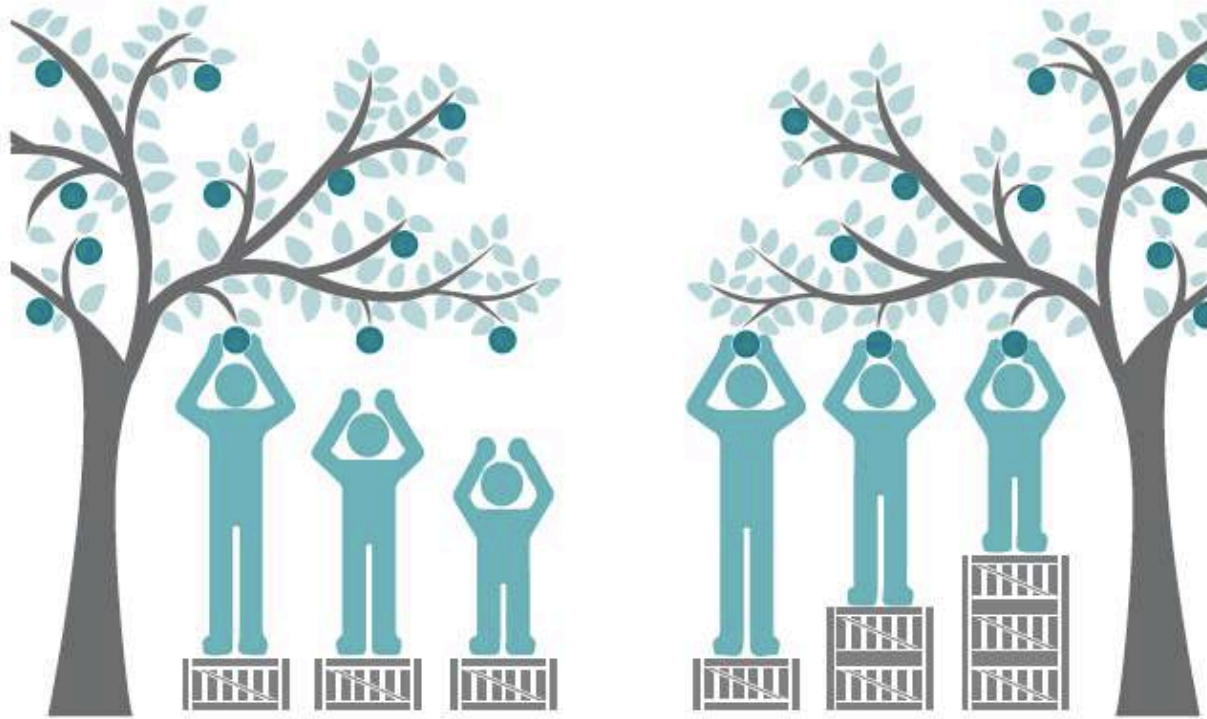
1980

1990

2000

2010

What is equity in education?



Equality doesn't mean **Equity**

Likhet er ikke det samme som likeverd

What is equity in education?

Equity in education has two dimensions: Equity as **inclusion** means ensuring that all students reach at least a basic minimum level of skills. Equity as **fairness** implies that personal or socio-economic circumstances, such as gender, ethnic origin or family background are not obstacles to educational success.

- OECD (2011)

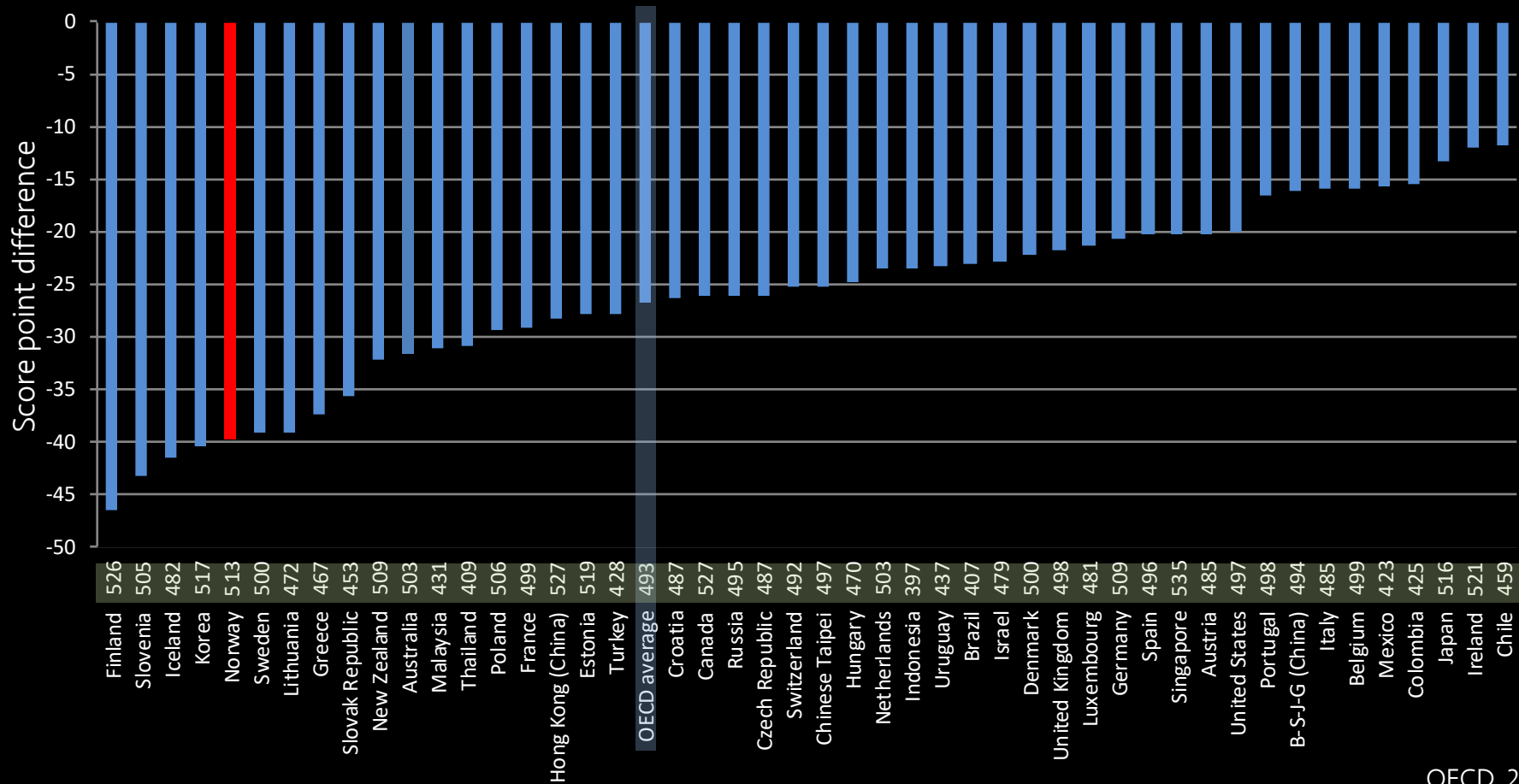
“**Equity** in schooling means ensuring that differences in educational outcomes are not the result of differences in wealth, income, power or possessions.”

- Review of Funding for Schooling (2011)

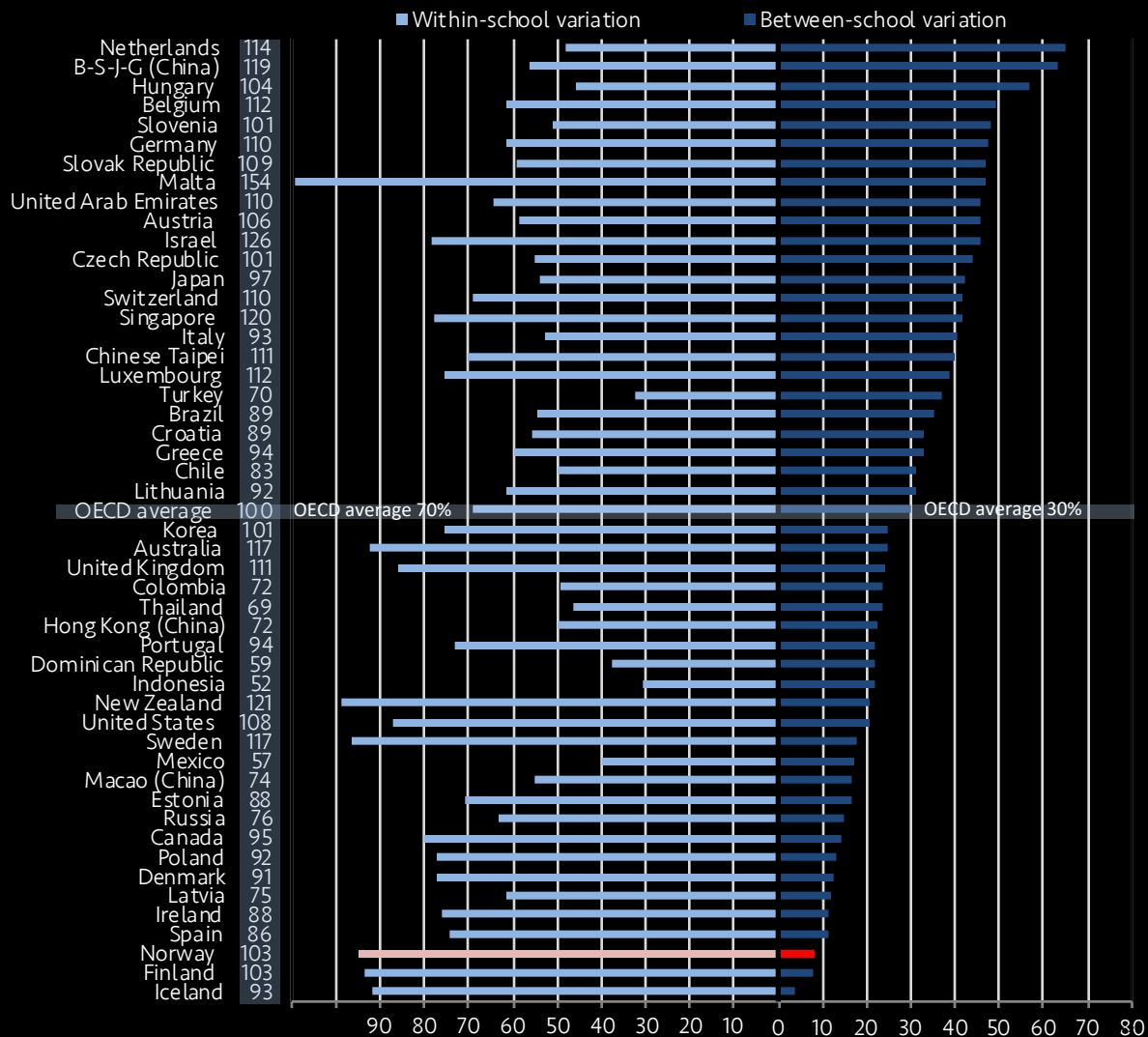
Equity in education is the means to achieving **equality**. It intends to provide the best opportunities for all students to achieve their full potential and act to address instances of disadvantage which restrict educational achievement.

- UNESCO (2015)

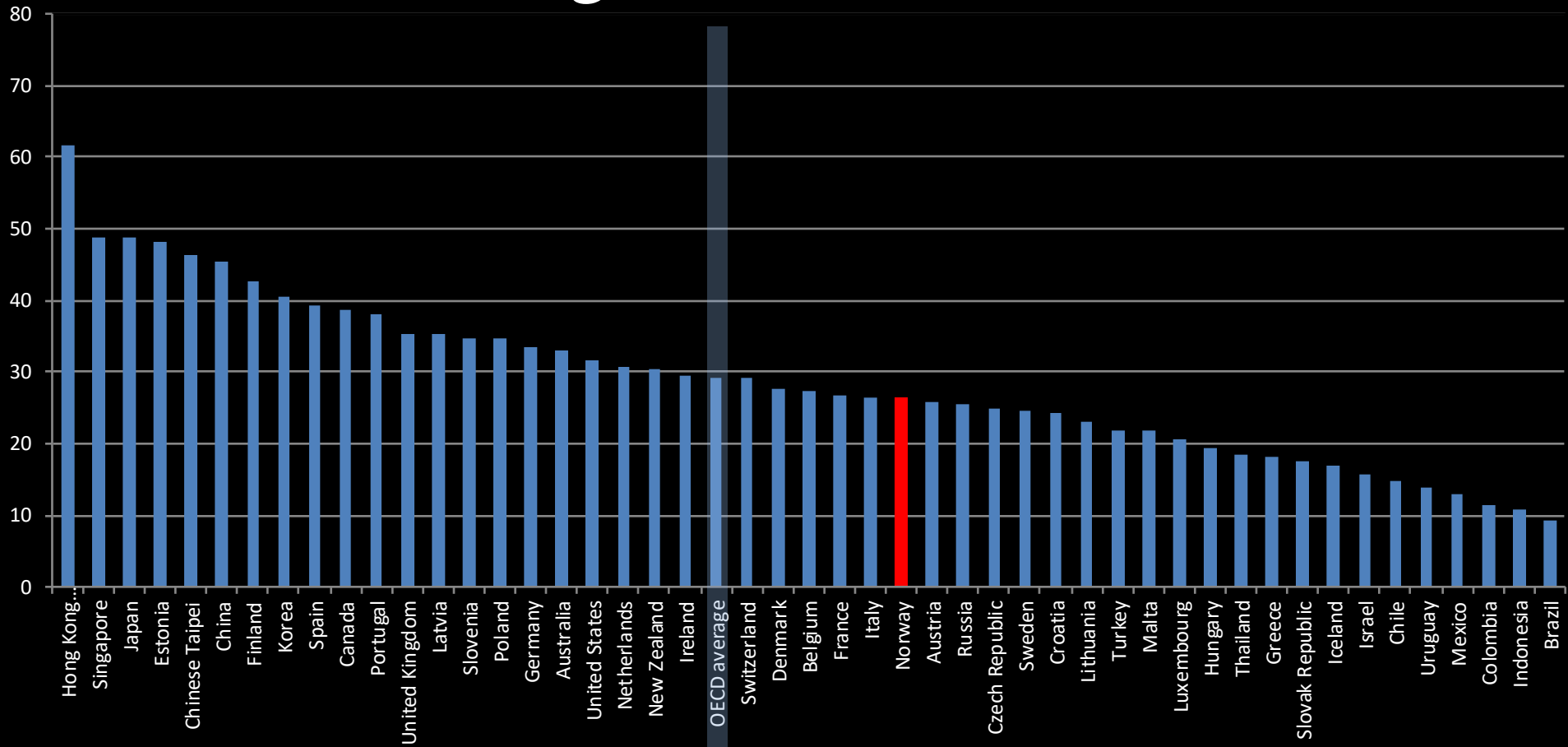
Girls vs. boys: Reading performance



Variation in science performance within and between schools



Percentage of resilient students



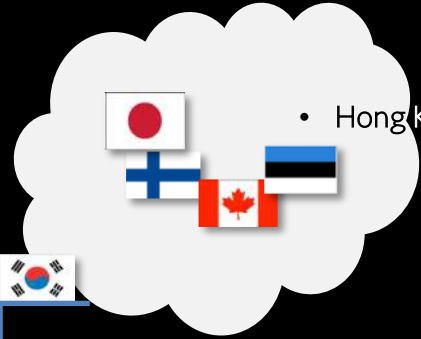
Family background vs. achievement in school

Student achievement in reading, mathematics and science (PISA)

STUDENT ACHIEVEMENT

- Singapore
- China

• HongKong



EQUITY OF OUTCOMES

Weakness of the relationship between student achievement and family background (ESCS Index)

OECD, 2016

What can you do?

1

Build the sense of
shared responsibility

Strengthen common understanding of equity

Make time available for professional collaboration

Make equity a driver to school improvement

2

Focus on wellbeing

Strengthen the whole-child approach

Invest in special education

Let the children play

3

Foster engagement,
ownership and curiosity

SESSION B

Leading with small data



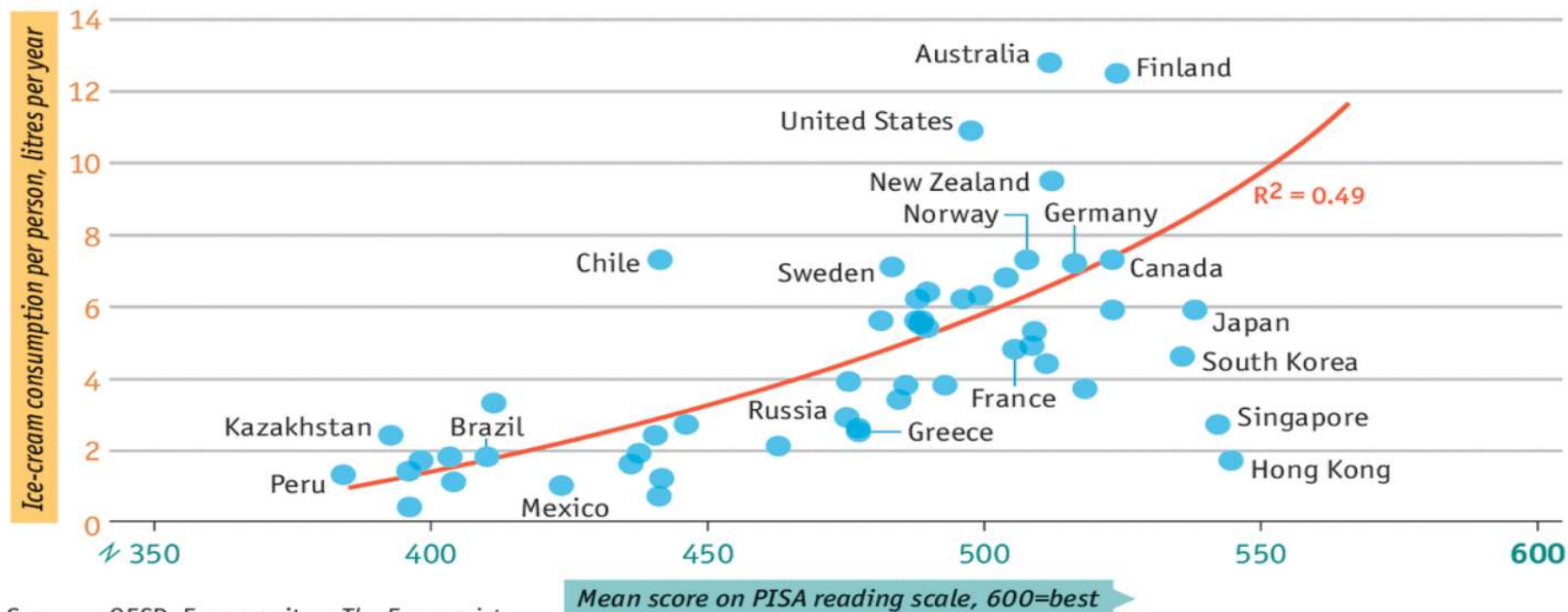
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“To PISA,
or not to PISA?”



Ice-cream consumption and PISA educational performance scores

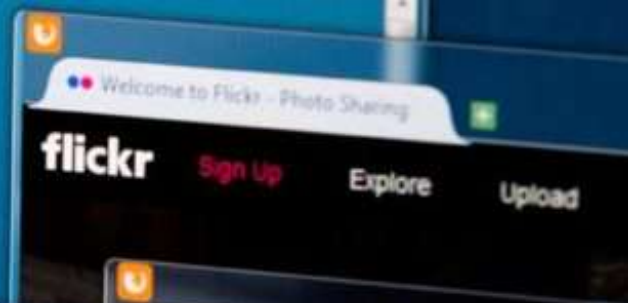
2012



Sources: OECD; Euromonitor; *The Economist*



Instagram



Big Data

“Extremely large data sets that may be analyzed computationally to reveal patterns, trends, and associations, especially relating to human behavior and interactions.”

Data mining

“The process of sorting through large data sets to identify patterns and establish relationships to solve problems through data analysis.”

Learning analytics

“The measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs.”

Can *Big Data* make
education smarter?

SCENARIO:

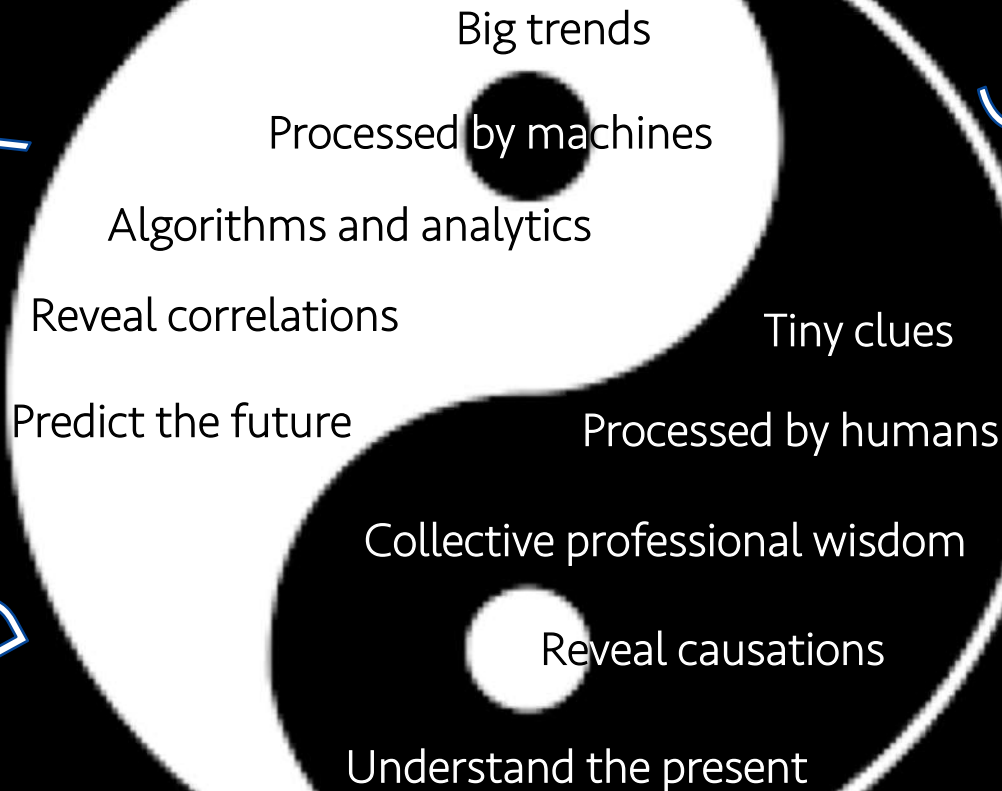
“Schools will diminish but education will flourish when robots and smart machines will take the role of the teacher.”

What should we do?

What is small data?

“Tiny clues found in schools that can uncover important relationships between teaching and learning.”

BIG DATA



Small data

Centre for Translational Data Science

THURSDAY, OCTOBER 27, 2016



Digital age 30 projects underway

Small data offers key to revealing the events that define our health

A new research centre hopes to unravel the influences on our existence, writes **Marcus Strom**.

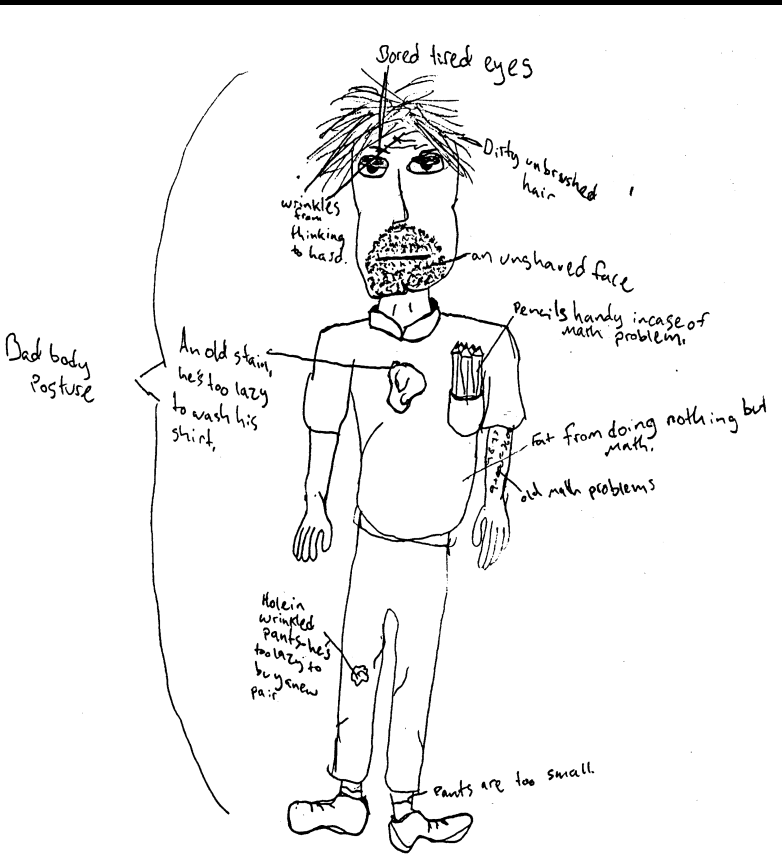


ment and criminology. Traditional data science mines information looking for problems to solve, Professor Durrant-Whyte said.

“What we do is find problems,

Why so many kids don't like mathematics?

Research question: “What does a mathematician at work look like?”



Usually fat male

Unstylish

No friends - except other mathematicians

No romantic relationships or social life

Wrinkles in their forehead from thinking so hard

Very short tempers

What can you do?

1

Talk about Small Data

Understand big data

Use multiple evidence

Talk about hidden clues

2

Use Small Data

Authentic assessments

Balance evidence-based and value-based

Collective professional wisdom

3

Lead with Small Data.
Or else, you'll be led by Big Data.

Takker!



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