

# Leading with small data for BIG CHANGE in your school



VASSP "Leading for Progress" State Conference  
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“To PISA,  
or not to PISA?”



Home

Analyse by country

Explore data

Review education policies

Education GPS is the OECD source for internationally comparable data and analysis on education policies and practices, opportunities and outcomes. Accessible any time, in real time, the Education GPS provides you with the latest information on how countries are working to develop high-quality and equitable education systems.



### Analyse by country

Choose from a wide variety of themes and data to create your own, customised country reports.



### Explore data

... By topic and by publication.  
Compare countries' by their success in providing a high-quality education for all.

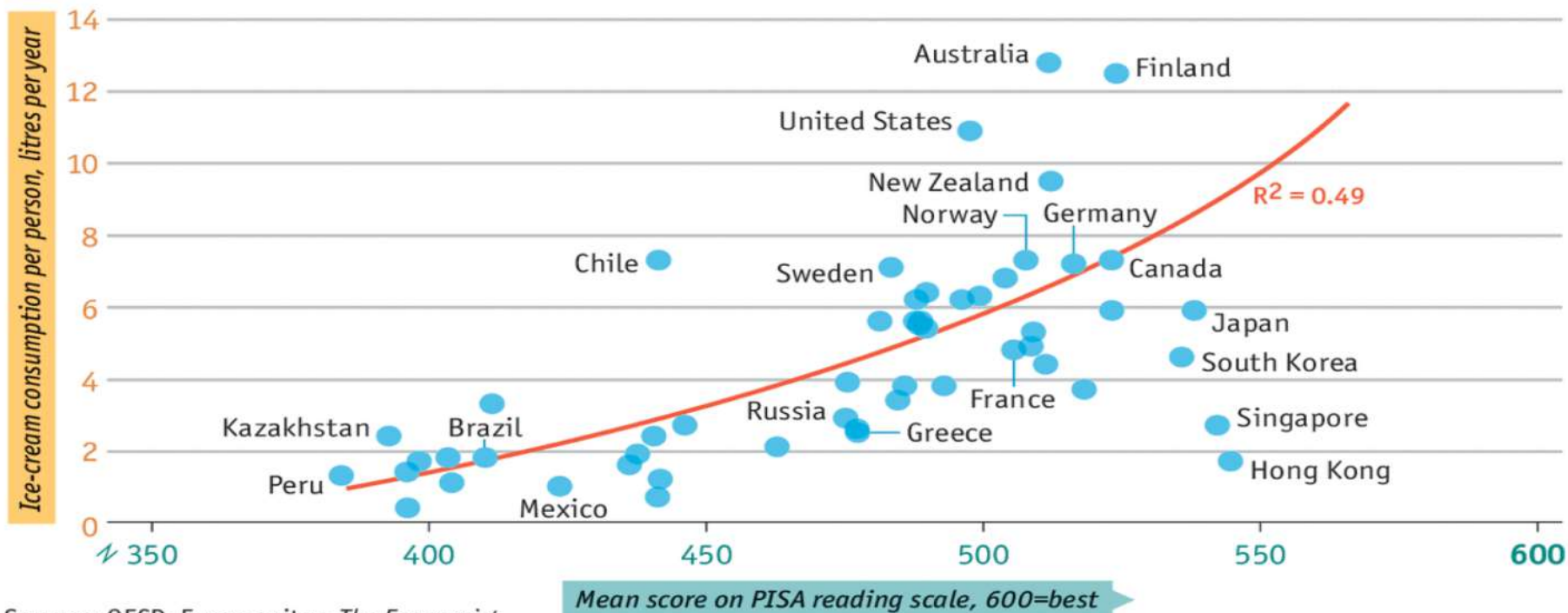


### Review education policies

Examine the OECD's extensive research and analysis of education policy around the world.

# Ice-cream consumption and PISA educational performance scores

2012



Sources: OECD; Euromonitor; *The Economist*

“To NAPLAN,  
or not to NAPLAN?”



# 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:

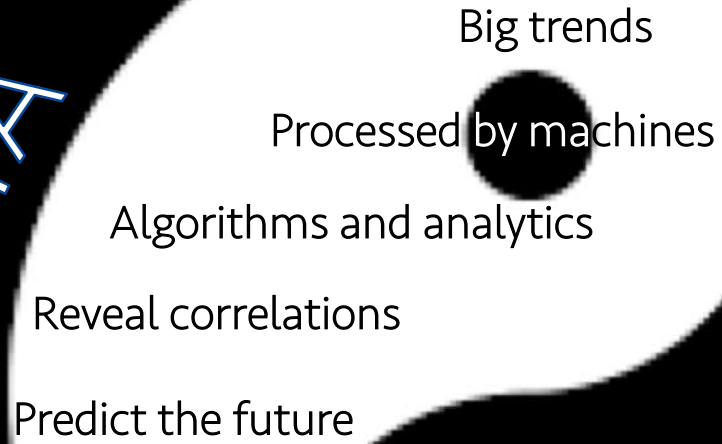
“Schools will diminish but education will flourish when robots and machines will take the role of the teacher.”

What should we do?

What is small data?

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

# BIG DATA



Big trends  
Processed by machines  
Algorithms and analytics  
Reveal correlations  
Predict the future

BIG DATA

small data

Big trends

Processed by machines

Algorithms and analytics

Reveal correlations

Predict the future

Tiny clues

Processed by humans

Collective professional wisdom

Reveal causations

Understand the present

# 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**.



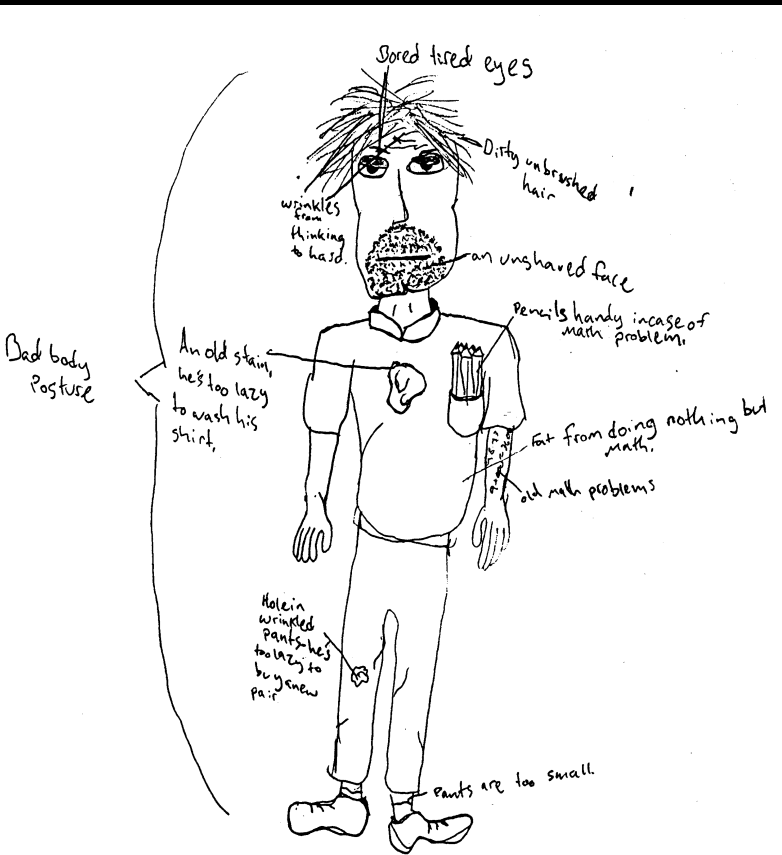
ment and criminology. Traditional data science mines information looking for problems to solve, Professor Durrant-Whyte said. "What we do is find problems,



Small Data can reveal why  
things happen in school.

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 to do next?

1

Talk about Small Data

The limits of big data

Valid evidence in school

Invisible learning

2

Use Small Data

**A**uthentic assessments

**B**e sensitive to tiny clues

**C**ollaborative practices



3

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

THANK YOU!

 @pasi\_sahlberg