School science – a global education race?

MNSES, UiO, Oct 24th 2017
Svein Sjøberg, University of Oslo
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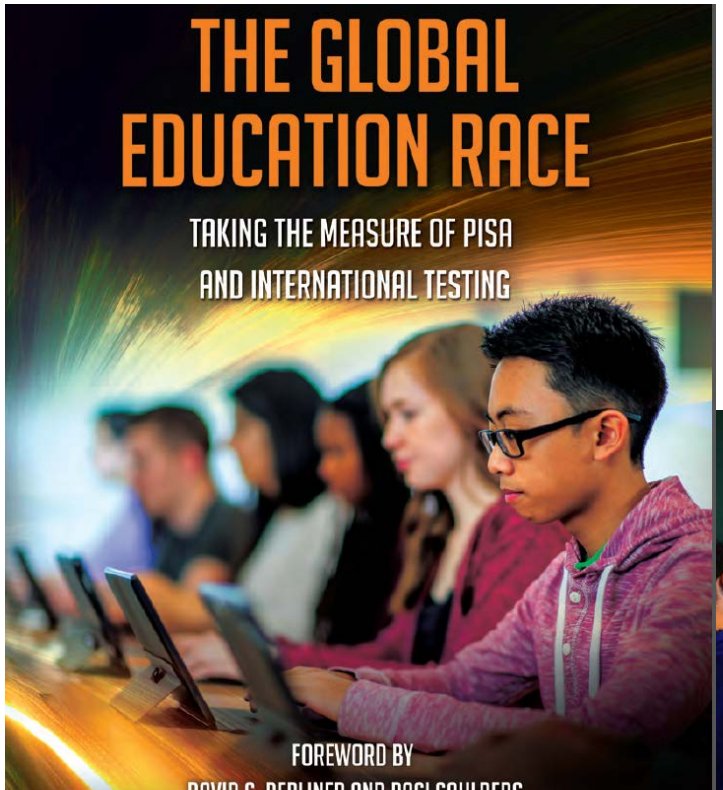


Starting Point (and Conclusion)

- National education policy is increasingly being shaped by **global** actors
- The prime global actor today is **OECD**, and **PISA** is the main instrument of power and influence
- UN-organizations, with other agendas than economic competitiveness, are less influential (and pushed aside)
- *We need to discuss and understand this wider political and ideological context.*

The Janus face of international schools' comparisons

- **Positive:** Inspiration, learning from others
- Opening new perspectives, alternative solutions
- **Problems:** Trivializing results and rankings
- Misuse, selective use, misinterpretation by media and politicians
- Overruling of national curricula and priorities
- A pressure towards a common, universal, decontextualized curriculum
- Creating **panic** and **crisis**:
  "Something" needs to be done... (But ***What***?)
- **Winners become models to be copied**

International studies of achievement

Norway participates in all!

Science vs. School science

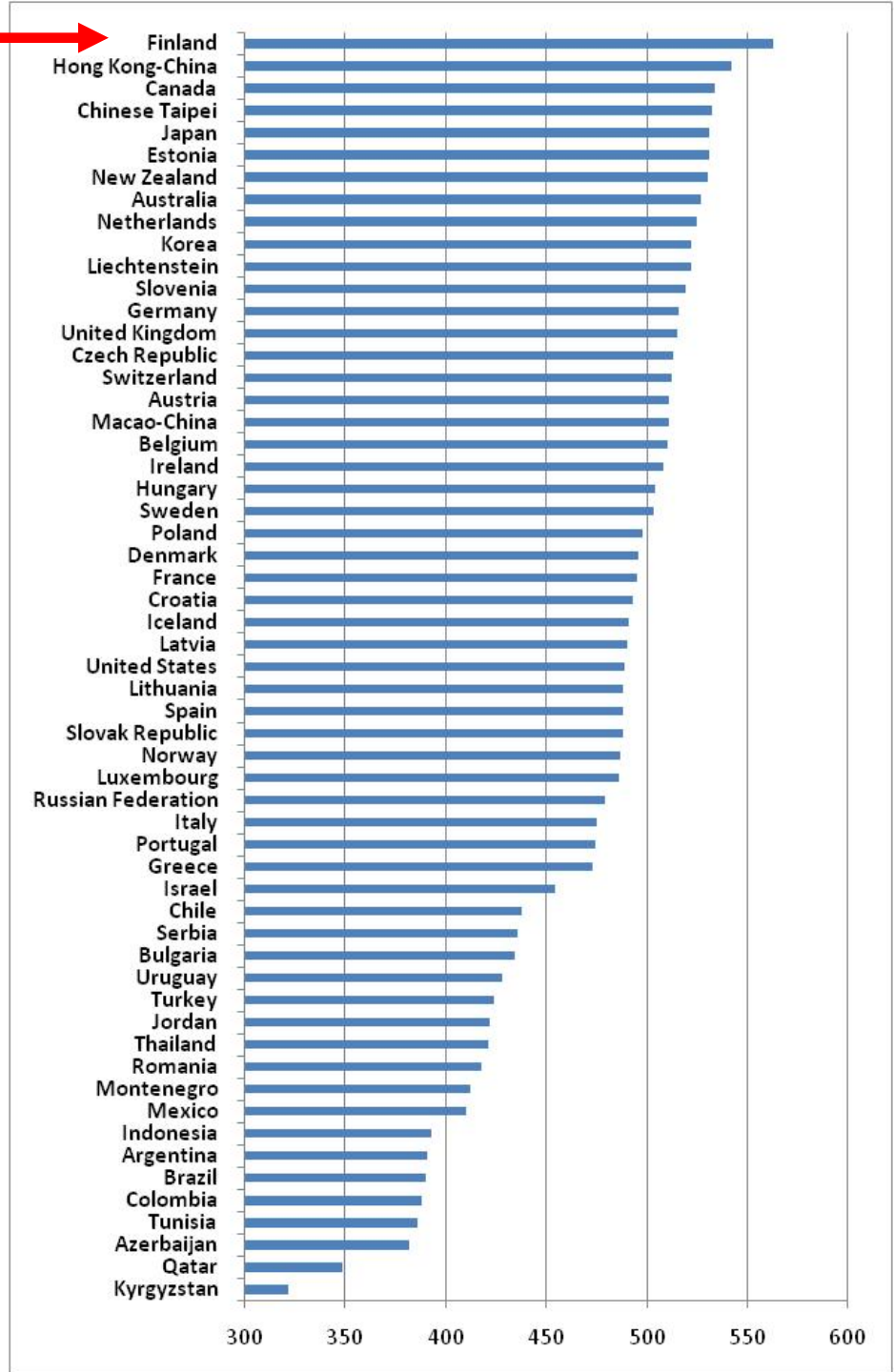
- **Science and Mathematics** as academic disciplines are Universal, but…
- **School science** needs to be put in contexts deemed to be relevant in the life of the learners – and cannot be "universal" and common
- The purpose of ***compulsory school science*** is not mainly to recruit new **scientists**!

Compulsory School Science: Lifelong perspectives more important than high scores at 15

- Attitudes and values are important **learning goals** as well as key **determinants of future behaviour**
- Also important for those who do ***not*** pursue S&T careers (i.e. the majority!)
- **Key concerns**
  - Promote lasting **curiosity**, **interest** in, **appreciation** of and **respect** for S&T
- - Understanding the ***nature*** of S&T, the ***values*** (and limitations) of S&T,
- S&T as part of ***human culture***, S&T for ***democracy*** and ***development***
- In many countries:
  Students are on top of score leagues, but they dislike the subject (PISA)

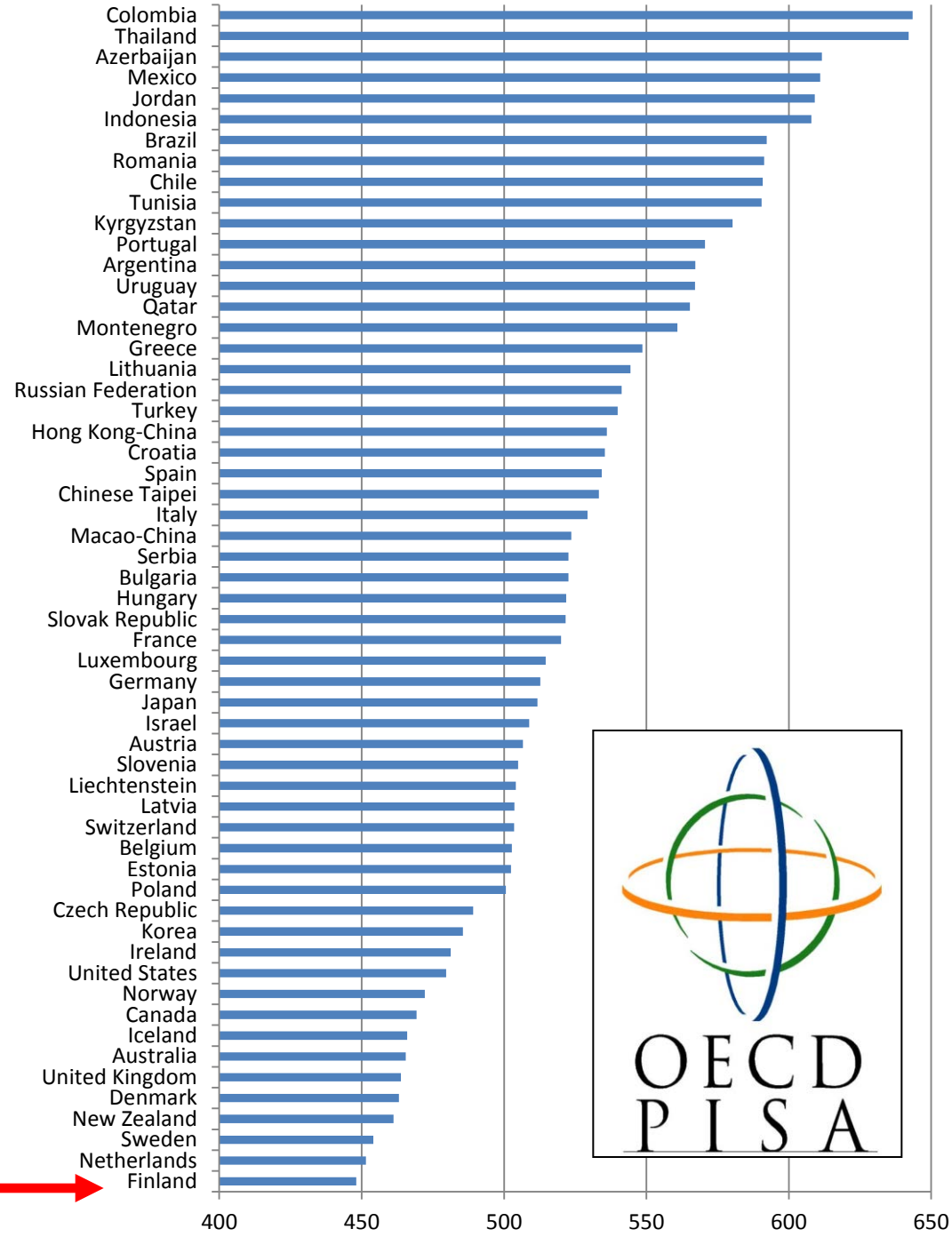
Finland:
Highest science score

PISA 2006 Science mean score



OECD
PISA

PISA 2006
Science
Interest score



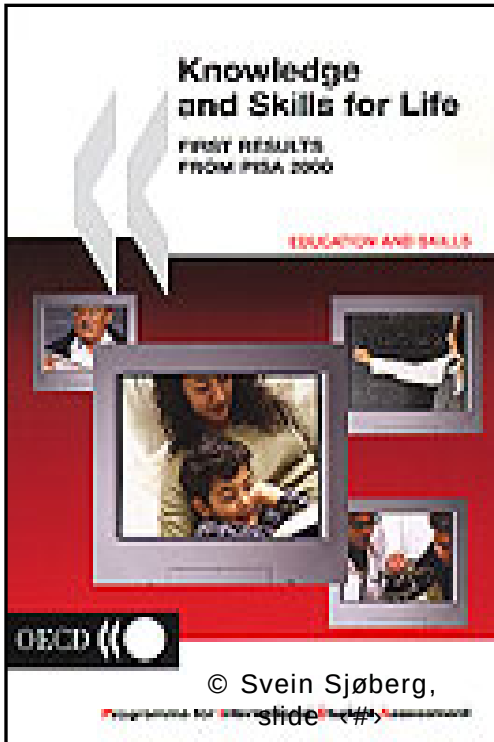
Finland:
Highest in science score,
lowest in interest…

PISA (OECD):

Programme for International Student Assessment

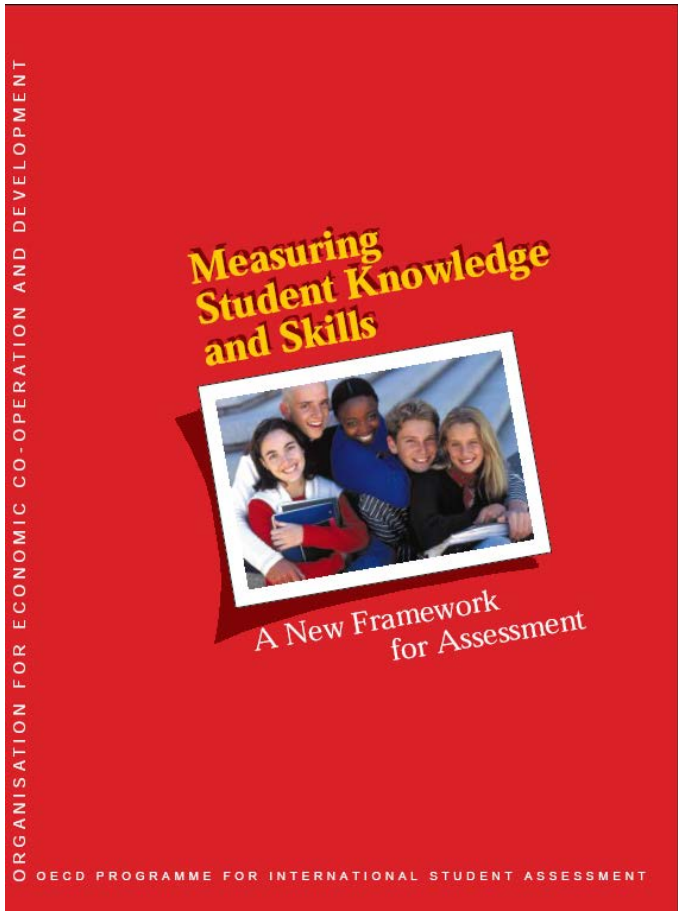
Testing every third year, 15 year olds

- 1, 2000: Reading
- 2, 2003: Mathematics
- 3, 2006: Science
- 4, 2009: Reading again
- 5, 2012: Mathematics
- 6, 2015: Science – results **Dec 4 2016**
- PISA: now 70 countries, ½ million pupils tested, 2½ hours
- Plans for 2018, 2021, 2024…
- "Big Science", like NASA, CERN…
- **Key element in educational policy in most participating countries**



PISA – Claiming to measure, 1999

- *How well are young adults prepared to meet the challenges of the future?*
- *Are they able to analyze, reason and communicate their ideas effectively?*
- *Do they have the capacity to continue learning throughout life?*
- **Repeated in all later reports**
- This is measured in a 2½ hour test, in solitude
- With items that are identical world-wide
- What a fantastic test…



Features of the PISA-test

- Not testing «school knowledge»,
- Explicitly ***not*** related to curricula in any country
- Testing (some aspects of) of Reading, Science and Mathematics
- **Not** tested: social sciences, civics, history, geography, culture, ethics, foreign language, crafts..
- **Not** adressing values, solidarity, empathy, care ..
- “Fair testing” implies: no local or national context
- PISA-scores and rankings data are *presented* and *used* as global and objective measures for the quality and efficiency of the entire school system

PISA testing: Mission impossible?

- **“Real life challenges”:**
  (common for pupils in all 70 countries?)
- “**Real life situation”:**
  2½ hours’ pen-and-pencil test
- **“Authentic texts”**
  (i.e. published in one country, and then translated word by word to other languages)
- No country should be favored
  (i.e. all local context, all current issues have to be removed. Controversial or socio-scientific contents removed)
- A test of loyalty and perseverance?
- Consider the (few) published items – and make your own judgment!

PISA-leader Andreas Schleicher in TED-talk 615,228 views

PISA is:

"really a story of how international comparisons have ***globalized the field of education*** *that we usually treat as an affair of domestic policy"*

http://www.ted.com/talks/andreas_schleicher_use_data_to_build_better_schools?language=en

Strong Performers and Successful Reformers in Science Education: Lessons from the world

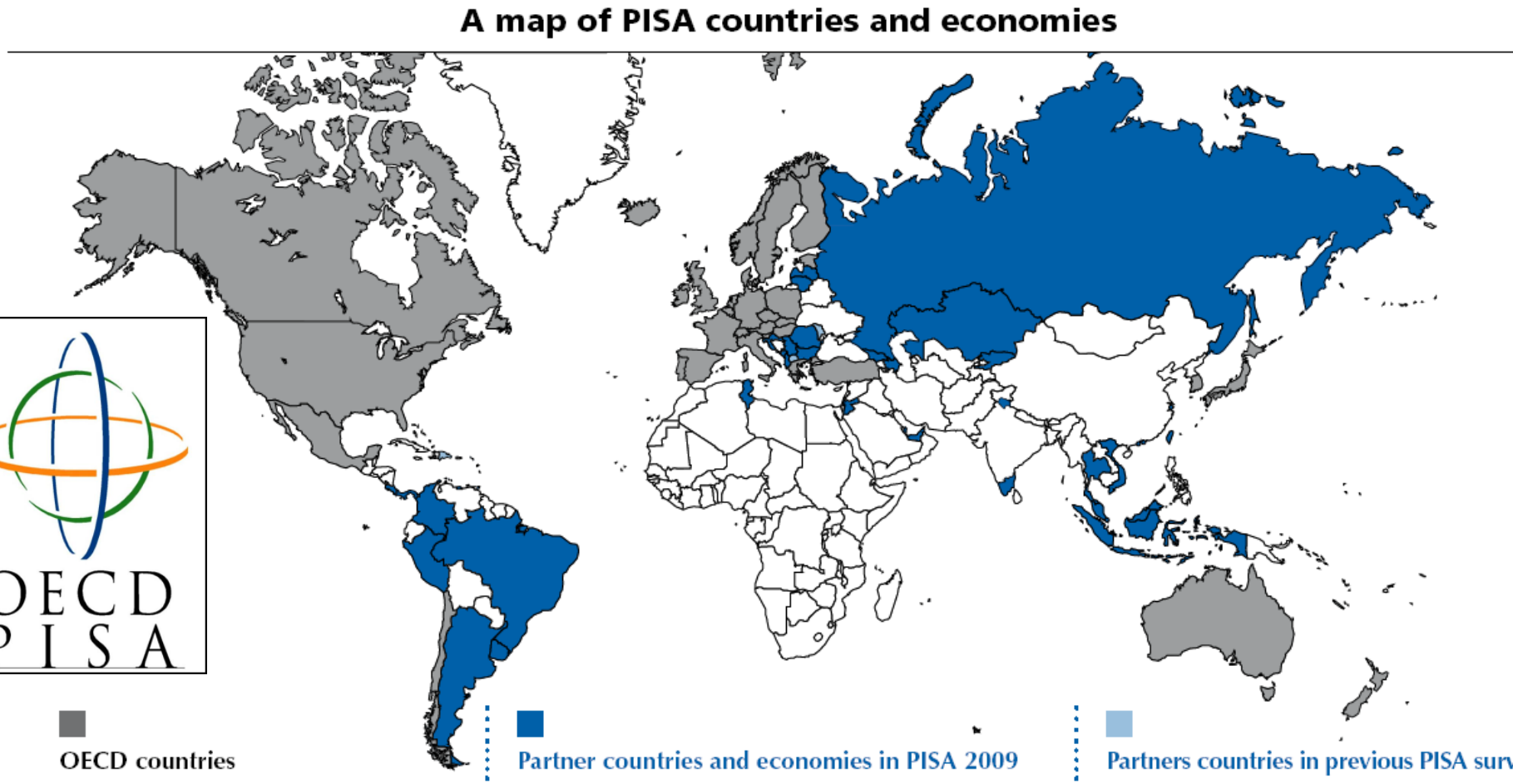
- "Over the past decade, PISA has become the world's premier yardstick for evaluating the quality, equity and efficiency of school systems."
  (Schleicher, 2017 NARST Plenary)

Taken for granted:

High PISA/TIMSS-score is the key to economical competitiveness

(hence the panic!)

PISA: *”80 % of the world’s economy”*
(but not of its population…)



OECD
PISA

Dårlige skoletester kan svekke norsk industri

ARBEIDSLIV

Norsk industri er svært bekymret over at norske elever gjør det dårlig på tester. Bedriftene mener det nettopp er mangel på kvalifisert personell som er det største hinderet for videre utvikling.

LARS HENRIK BJØRGUM
OSLO

Dette går frem av en undersøkelse Norsk Industri har gjort.

– Bedriftene anser mangel på kvalifisert arbeidskraft som kritisk. Bedrifter har måttet sette prosjekter på vent på grunn av mangel på kvalifiserte folk til å gjennomføre dem, sier fagsjef John Vigrestad i Norsk Industri.

– Industrien er bekymret. Sett i lys av den historisk lave arbeidsledigheten, er det ikke lett å få tak i kvalifiserte folk. Bekymringen toppes med Pisa-undersøkelsen som viser at norske elever gjør det dårlig, nettopp i fag som trengs i industrien, sier Vigrestad.

Han frykter at Pisa-resultatene kan være langt mer alvorlig enn å måle lese- og skriveferdigheter.

– Dette gjør oss bekymret også på lang sikt. Hva kan vi vente av kandidater som gjør det så dårlig internasjonalt, når de skal ut i arbeidslivet?, spør Vigrestad.

– De som gjør det dårlig i skoletester i dag, skal inn i arbeidslivet om en ti års tid. Hvis vi ikke klarer å høyne nivået innen den tid, er det heller ikke gode utsikter for å rekruttere gode medarbeidere på sikt, sier Vigrestad.

Dårlig reklame

Norsk Industri understreker at vi må ta de dårlige testresultatene og problematikken på alvor.

– Vi må tenke igjennom hva slags skolepolitikk vil skal ha. Vi må ha enda tettere dialog mellom næringsliv, myndigheter og skole om hvordan skolen skal bli bedre, sier Vigrestad.

– Hvis ikke industrien får kvalifiserte medarbeidere i Norge på kortere eller lengre sikt, er det bekymringsfullt i forhold til bedriftenes satsing på FoU i årene fremover. Det er heller ingen god markedsføring for Norge å skilte med Europas dårligste elever, sier Vigrestad.

lars.bjorgum@dn.no

DETTE ER RAPPORTEN

- Norsk Industri er NHOs største landsforening.
- Norsk Industris FoU- og innovasjonsrapport 2007 bygger på svar fra 383 konsern og bedrifter, med en samlet omsetning på 125 milliarder kroner.
- Pisa-undersøkelsen dokumenterer 15-åringenes ferdigheter i lesing, matematikk og naturfag. En annen undersøkelse, Pirls, viser norske 4. og 5.-klassingers leseferdigheter. Begge undersøkelser viser at norske elever presterer dårligere enn før og dårligere enn elever i land vi sammenligner oss med.

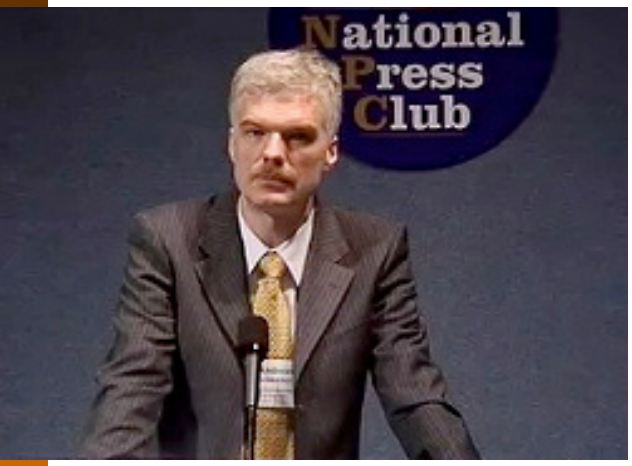
KRITISK. – De som gjør det dårlig i skoletester i dag, skal inn i arbeidslivet om en ti års tid, sier John Vigrestad i Norsk Industri. Foto: Øyvind Elvsborg

Australia, Sept 2012,

Prime minister Julia Gillard:

smh.com.au
The Sydney Morning Herald

- *- By 2025, Australia should be **top five** in the world...*
- *- The government will use **PISA** ... to track Australia's progress compared with the rest of the world.*



Losing Our Edge: Are American Students Unprepared for the Global Economy?

National Press Club, Washington, DC, December 4, 2007: PISA Release Conference

- The lessons learned from PISA results … can, and should, be used to inform U.S. education policy so that our students graduate …
- ready to **compete, thrive, and lead in the global economy of the twenty-first century.**

Videos etc on http://www.all4ed.org/events/losingedge

US government statement on TIMSS and PIRLS 2011

- A number of nations are **out-educating us** today in the STEM disciplines—and if we as a nation don't turn that around,
- those nations will soon be **out-competing** us in a knowledge-based, global economy**.**

- http://www.ed.gov/news/press-releases/statement-us-secretary-education-arne-duncan-release-2011-timss-and-pirls-assess

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(India facsimile Vol. 4 No. 134)

WEDNESDAY, DECEMBER 12, 2012

WSJ.com

Competitors Still Beat U.S. in Math, Science Tests

By Stephanie Banchero

American schoolchildren continue to lag behind those of major competitors in math and science exams given globally, despite progress on some of those tests, according to results from international achievement exams released Tuesday.

Students in Singapore, South Korea, Japan and Finland, among others nations, bested U.S. fourth- and eighth-grade students on the 2011 Trends in International Mathematics and Science Study, known as TIMSS.

U.S. fourth-graders made some progress on the math exam since it last was given in 2007, but U.S. scores on the other exams were statistically unchanged.

Despite that, U.S. students still outperformed international averages and were among the top performers compared with the 60 countries and educational systems that administered the fourth-grade math and science tests and the 59 systems that gave the eighth-grade exams. U.S. students either placed in, or tied for, the top 13 spots on all those exams.

Some states volunteered to administer the tests to more students so their results could be statistically valid to be broken out separately and did very well, especially Massachusetts, Minnesota and Colorado. Massachusetts, for example, posted the second-highest scores globally on the eighth-grade science test.

Mitchell Chester, commissioner of Elementary and Secondary Education in Massachusetts, credited the state's results on an education overhaul launched in 1993 that included setting high standards for curriculum and administering rigorous exams.

U.S. students have made steady progress since the exams first were given in 1995, but other jurisdictions are outpacing that progress, said Ina V.S. Mullis, executive director of the TIMMS & PIRLS International Study center at Boston College, which develops the math and science exams and analyzes the results.

"We are trying to catch a moving target," she said. "This is of concern in a global economy when we are trying to compete for the health of our nation."

The U.S. results were "pretty respectable," said Jack Buckley, the commissioner of the National Center for Education Statistics, which administers the exams in the U.S. and studies the scores. He praised the test results posted by some of the states that were broken out individually.

Still, the new data could add to the hand-wringing over the performance of U.S. students overall, which a blue-ribbon panel of the Council on Foreign Relations in March called a national-security issue.

Results released in 2010 from the Program for International Student Assessment math exam, given to 15-year-olds across the world every three years, showed American kids in the middle of the pack compared with 33 industrialized peers.

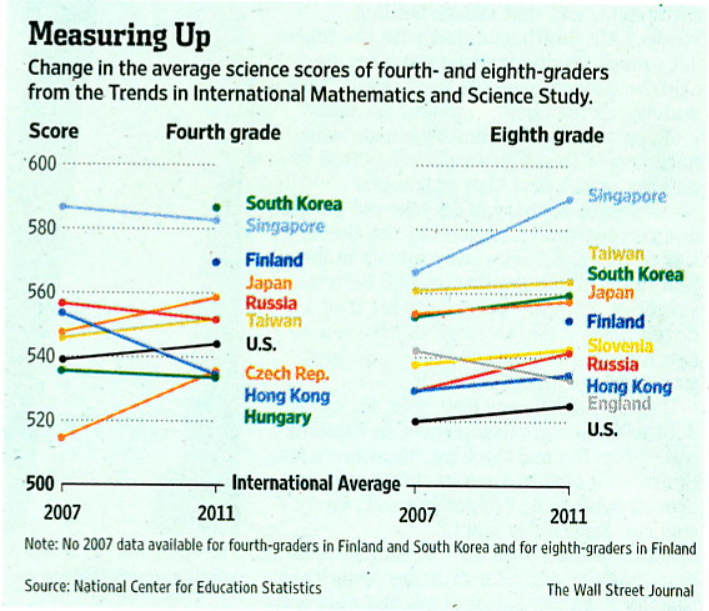
Also on Tuesday, results from the Progress in International Reading Literacy Study (PIRLS), given to fourth-graders, showed American students made some progress since it was last given in 2006. The exam was given to students in 53 education systems globally, and five turned in higher scores than the U.S., compared with eight jurisdictions that scored higher in 2006. Florida scored among the top five education systems assessed by the PIRLS test in 2011.

Asian students have long dominated the math and science exams, and the new results show they not only posted higher scores but a bigger number of them performed at the highest levels.

In fourth-grade math, for example, 43% of students in Singapore scored "advanced," compared with 13% of their U.S. counterparts. In eighth-grade math, 47% of Korean students scored at the top level, versus 7% of U.S. students.

In science, 33% of Singapore's fourth-graders and 40% of its eighth-graders scored in the top level, compared with 15% and 10% of the comparable U.S. group.

—Caroline Porter contributed to this article.



Globalization: The race is on..

- **Cameron, UK:**
  - We are in a global race today …
  - **Sink or swim, do or decline!**
- Prime Minister Cameron's 10 October 2012, http://www.bbc.co.uk/news/uk-politics-19890459

- **Obama, US:**

- *Race to the Top* will enable America's students to ***"out-compete any worker anywhere in the world".***

The White House *the Race to the Top*, http://www.whitehouse.gov/the-pressoffice/fact-sheet-race-top

Fersk internasjonal undersøkelse

Norge er skoletaper

Hermed er det solid dokumentert: – Det er typisk norsk å være middels!

Hovedkonklusjoner

Mer kvalitet

På hogget

–Vi er flinke nok

Skolen orker ikke flere reformer. Elevene er flinke nok. – Nå må vi snart innse at det ikke er typisk norsk å være best, sier leder i Norsk Lærerlag, Helge Hjetland.

Fornøyd

Orker ikke mer

Lesing

1	Finland	546
2	Canada	534
3	New Zealand	529
4	Australia	528
5	Irland	527
6	Korea	525
7	Storbritannia	523
8	Japan	522
9	Sverige	516
10	Østerrike	507
13	Norge	505
16	Danmark	497

Internasjonalt gj.snitt = 500

Matematikk

1	Japan	557
2	Korea	547
3	New Zealand	537
4	Finland	536
5	Australia	533
6	Canada	533
7	Sveits	529
7	Storbritannia	529
9	Belgia	520
10	Frankrike	517
12	Danmark	514
15	Sverige	510
17	Norge	499

Internasjonalt gj.snitt = 500

Naturfag

1	Korea	552
2	Japan	550
3	Finland	538
4	Storbritannia	532
5	Canada	529
6	New Zealand	528
6	Australia	528
8	Østerrike	519
9	Irland	513
10	Sverige	512
13	Norge	500
22	Danmark	481

Internasjonalt gj.snitt = 500

Undersøkelsen

Clemets tiltak

Aftenposten

Onsdag 5. desember 2001

"Norway is a school loser Now scientifically documentet!"

- **- This is disappointing, like coming home from a winter Olympics without a single medal to Norway.**
- **- And this time we cannot explain it by blaming the Finnish to be doped.**

- **Kristin Clemet, Minister of Education for Høyre, at PISA press conference**

MEDIZIN Menschenversuche: Wie Patienten zu Opfern werden SEITE 2

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AFFÄREN

Ulrich Wickert über die Habgier der Mächtigen

SEITE 5

WAHL

Ronald Schill, der Aufrührer von Hamburg

SEITE 3

EINHEIT

Nina Hagen: Tagebuch zwischen Ost und West

SEITE 36

BILDUNG UND ERZIEHUNG IN DER KRISE

Schule macht dumm

VON REINHARD KAHL

Vernachlässigte Kinder, miserable Leistungen: DIEWOCHE zeigt Auswege – und wie die Schule der Zukunft aussehen muss

Ein indischer Kioskbesitzer in Frankfurt-Hoechst schwärmt: „Kommen Sie mit nach Goa!

© Svein Sjøberg

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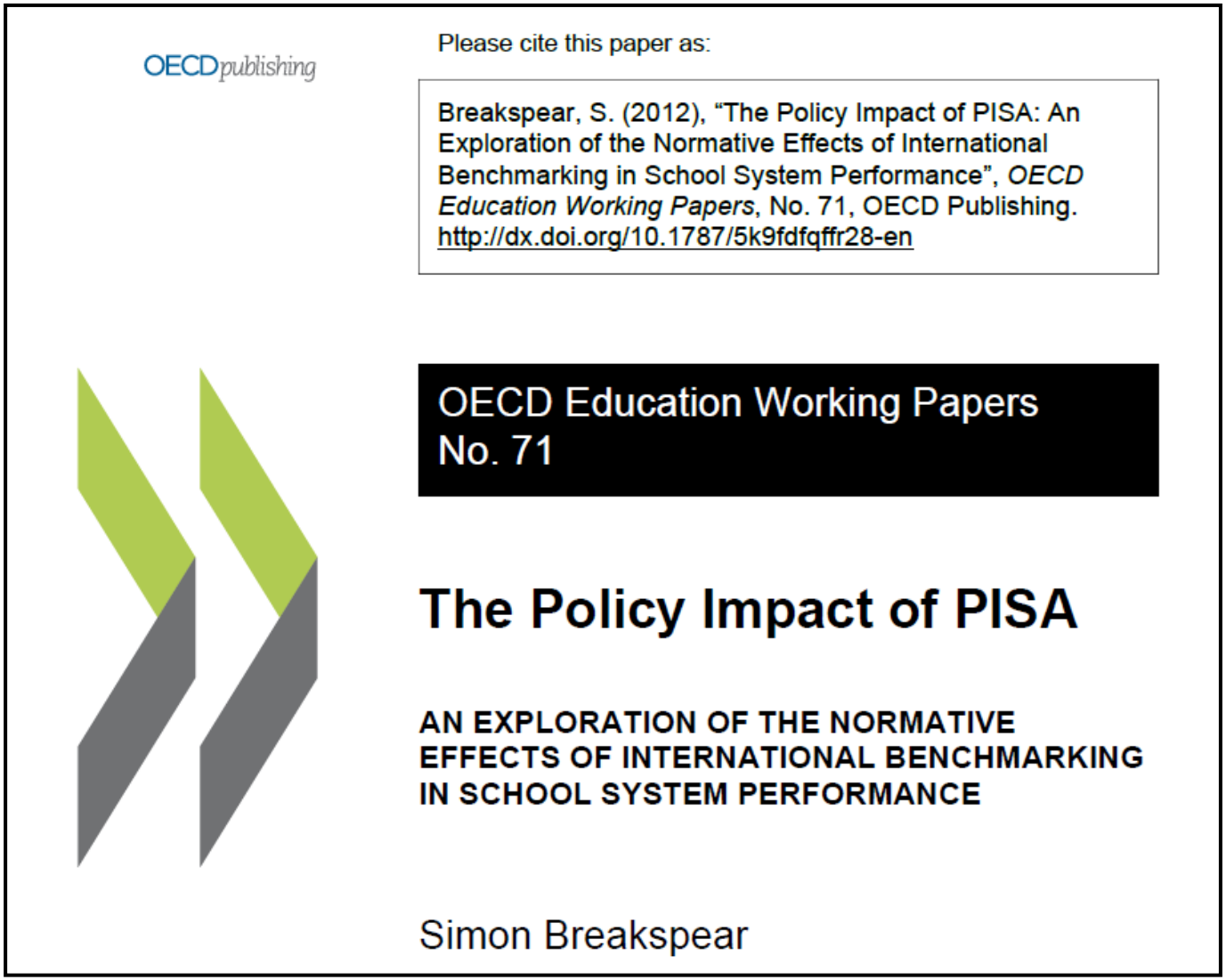
Policy impact of PISA (according to OECD)

http://www.oecd-ilibrary.org/docserver/download/5k9fdfqffr28.pdf?expires=1427136817&id=id&accname=guest&checksum=DE04551C62E110881EBD80C7B34AEDF4



OECD publishing

Please cite this paper as:

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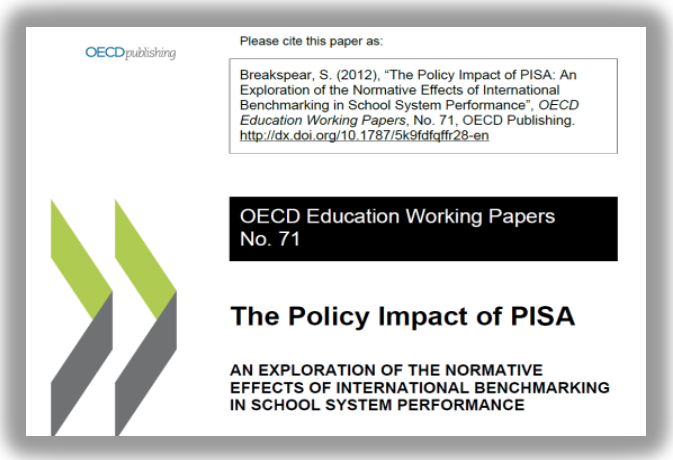
OECD Education Working Papers
No. 71

The Policy Impact of PISA

AN EXPLORATION OF THE NORMATIVE EFFECTS OF INTERNATIONAL BENCHMARKING IN SCHOOL SYSTEM PERFORMANCE

Simon Breakspear



Normative influence of PISA

Abstract

- .. PISA results have had an **influence on policy reform in the majority of participating countries/economies.**

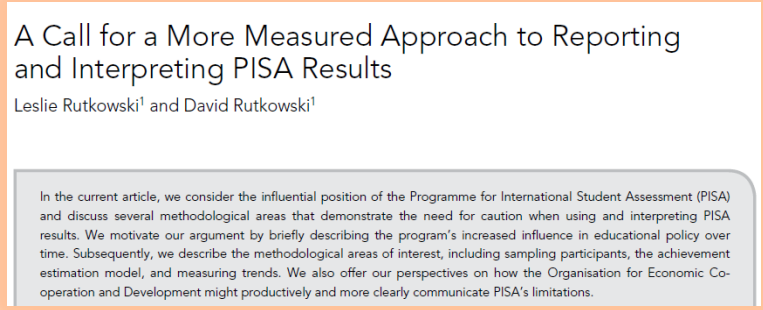
- … PISA has been adopted **as an almost global standard,** and is now used in over 65 countries and economies.

Country/Economy	Breadth of policy impact index	Informing policy-making process
Republic of Korea	14	Very
Austria	13	Very
Hungary	13	Very
Japan	13	Extremely
Israel	13	Very
Germany	12	Very
Sweden	12	Very
Poland	12	Very
Ireland	11	Very
Latvia	11	Very
England-UK	11	Extremely
Denmark	10	Extremely
Greece	10	Very
Norway	10	Very
Slovak Republic	10	Very
Estonia	9	Very
Wales-UK	9	Very
Chile	8	Moderately
Luxembourg	8	Not very
Mexico	8	Very
Netherlands	8	Moderately
Turkey	8	Not Very
Finland	7	Not Very
Hong Kong-China	7	Moderately
Scotland-UK	7	Moderately
Slovenia	6	Very
Spain	6	Moderately
USA	6	Moderately
Belgium (Flemish Community)	5	Don't Know
Singapore	5	Moderately
Belgium (French Community)	4	Very
Indonesia	4	Not very
Italy	4	Moderately
Portugal	4	Moderately
Canada	3	Moderately
France	1	Not very
Australia	0	Moderately

Andreas Schleicher: “The Global Minister of Education”

Andreas Schleicher, the man in charge of the global education numbers. EPA

Leslie and David Rutkowski about PISA (Jan 2017)

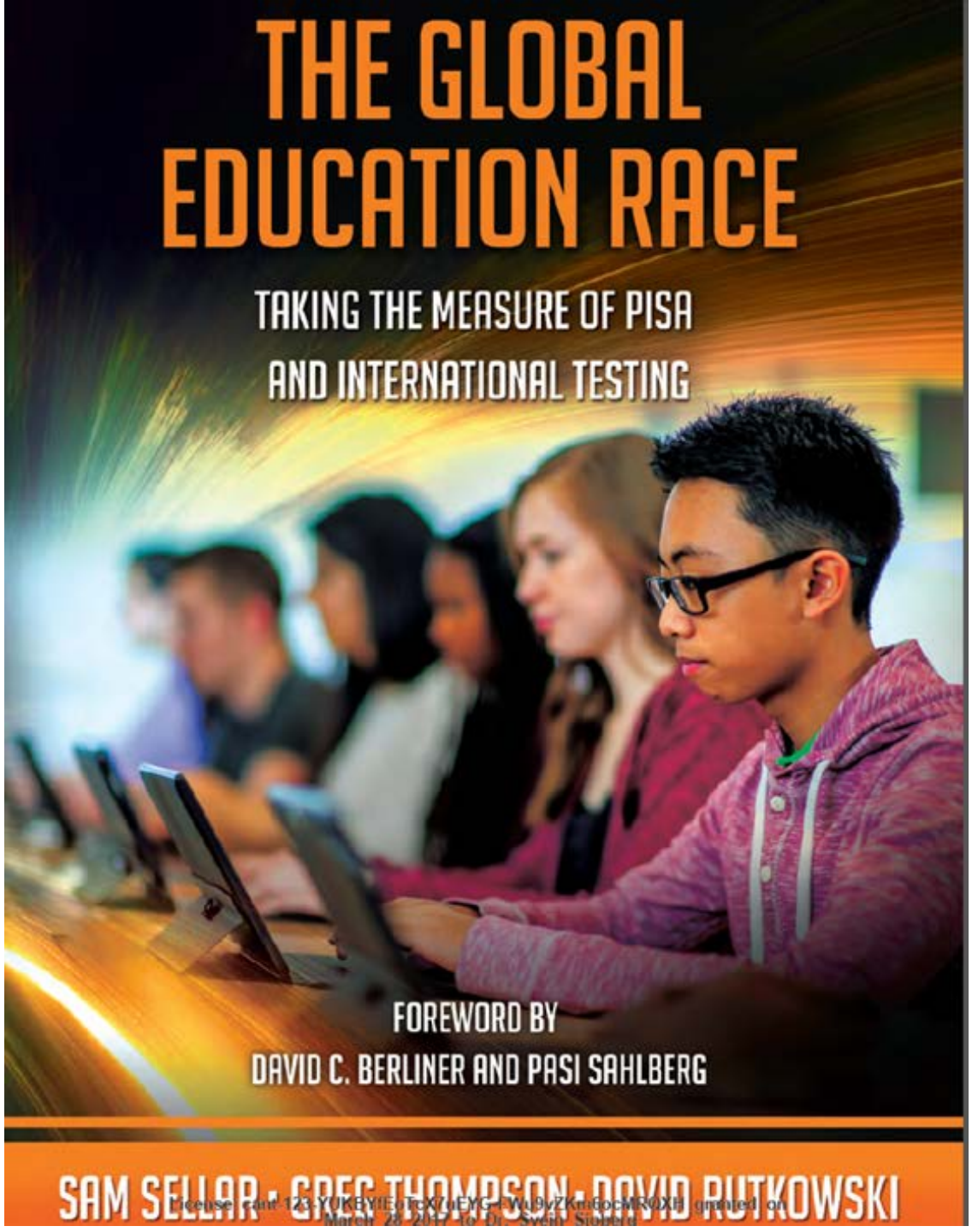

A Call for a More Measured Approach to Reporting and Interpreting PISA Results

Leslie Rutkowski[1] and David Rutkowski[1]

In the current article, we consider the influential position of the Programme for International Student Assessment (PISA) and discuss several methodological areas that demonstrate the need for caution when using and interpreting PISA results. We motivate our argument by briefly describing the program's increased influence in educational policy over time. Subsequently, we describe the methodological areas of interest, including sampling participants, the achievement estimation model, and measuring trends. We also offer our perspectives on how the Organisation for Economic Co-operation and Development might productively and more clearly communicate PISA's limitations.

- *A Call for **a More Measured Approach** to Reporting and Interpreting PISA Results*
- ***- PISA is a test designed by an economic organization to assess what the organization believes students need to know and can do…***
- *https://www.youtube.com/watch?v=DD3ensngfpI&feature=share*

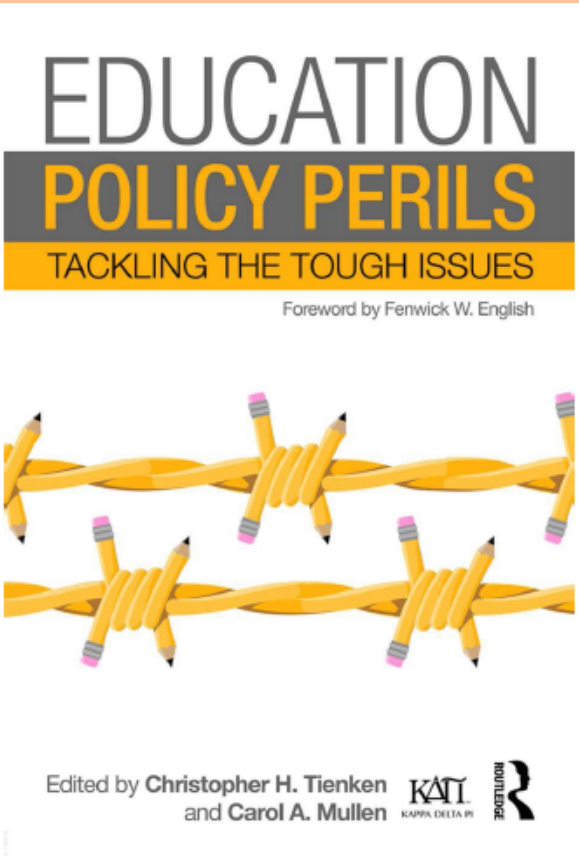
If you should read just one (small) book on PISA, read this



OECD, PISA and Globalization: The influence of the International Assessment Regime (Routledge 2016)

Chap 5
OECD, PISA, AND GLOBALIZATION: THE INFLUENCE OF THE INTERNATIONAL ASSESSMENT REGIME

Svein Sjøberg University of Oslo, Norway



Tienken, C. H. & Mullen, C. A. (Eds) (2016). Education Policy Perils. Tackling the Tough Issues. Routledge
https://www.routledge.com/products/9781138898196

No surprise:

PEARSON

PISA has itself become part of the global economy as actor in the privatized educational market

Close cooperation with Pearson inc.

Pearson in alliance with PISA/OECD

Pearson to Develop PISA 2018 Frameworks

PEARSON

- Joint Press release PISA/OECD and Pearson, Dec 10th 2014
  https://www.pearson.com/news/announcements/2014/december/pearson-to-develop-pisa-2018-student-assessment-21st-century-fra.html
- - Pearson, the world's leading learning company, today announces that it has won a competitive tender by the OECD to **develop the Frameworks for PISA 2018**.
- The frameworks define **what will be measured** in PISA 2018,
- **how this will be reported,**
- and which approach will be chosen for the **development of tests and questionnaires...**

PEARSON

PISA – new products and new customers:

(In cooperation with Pearson and other commercial interests..)

PISA for schools

OECD
BETTER POLICIES FOR BETTER LIVES

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Programme for International Student Assessment (PISA)

PISA › About PISA › PISA-based Test for Schools

PISA-based Test for Schools

Introduction

The ***PISA-based Test for Schools*** is a student assessment tool geared for use by schools and networks of schools to support research, benchmarking and school improvement efforts. In the United States, the assessment is known as the ***OECD Test for Schools*** (based on PISA). The assessment tool provides descriptive information and analyses on the skills and creative application of knowledge of 15-year-old students in reading, mathematics, and science, comparable to existing PISA scales (when administered under appropriate conditions).

The assessment also provides information on how different factors within and outside school associate with student performance. Contextual questionnaires geared for schools and students are an important part of the assessment. Information about students' socio-economic backgrounds, their attitudes and interests in reading, science and mathematics and the learning environment at school are all addressed in the assessment.

The OECD completed the international pilot trial of the assessment in March 2013. Since 2010 and under the guidance of the PISA Governing Board (PGB), the OECD has carried out the development of the assessment and the implementation of the pilot in collaboration with schools and local partners in different countries.

PISA for Development

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Programme for International Student Assessment (PISA)

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PISA for Development

Background

The United Nations (UN) Millennium Development Goals (MDGs) were established in 2000/1 and consist of eight development objectives to be achieved by 2015. It is widely agreed that the MDGs have been effective in mobilising worldwide awareness, leveraging resources, guiding global development efforts and increasing accountability. It is also impressive how close the world will get to most of the MDGs by 2015. However, there is need for a successor framework once the MDGs expire in 2015 to keep the momentum built to date. The OECD played a pivotal role in defining the MDGs. With two years to go, the OECD is increasing its efforts to support the achievement of the MDGs, and at the same time thinking about how it can help the UN in developing a new agenda and framework post-2015.

The OECD has a number of areas of expertise which could support the UN-led processes shaping the post-2015 agenda and framework. One of these is to support the use of international measures of educational success – particularly focusing on learning - through its PISA for Development initiative.

© UNESCO/ José Gabriel Ruiz Lembo

Aims and approach

PISA for Development aims to increase developing countries' use of PISA assessments for monitoring progress towards nationally-set targets for improvement, for the analysis of factors associated with student learning outcomes, particularly for poor and marginalised populations, for institutional capacity-building and for

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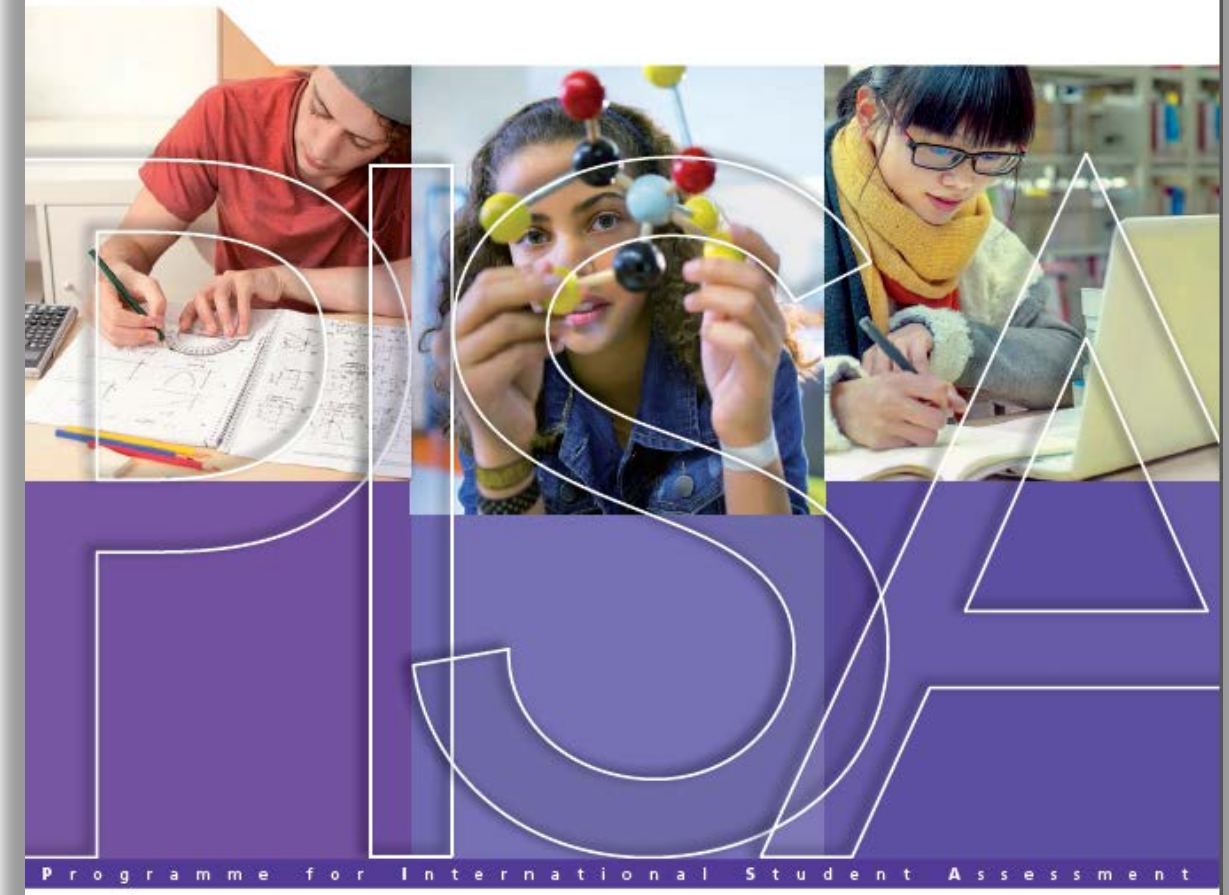
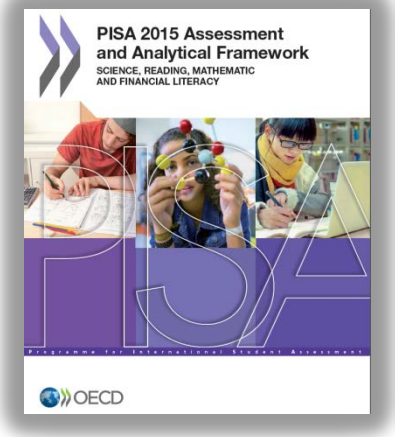
PISA 2015 Assessment and Analytical Framework

SCIENCE, READING, MATHEMATIC AND FINANCIAL LITERACY



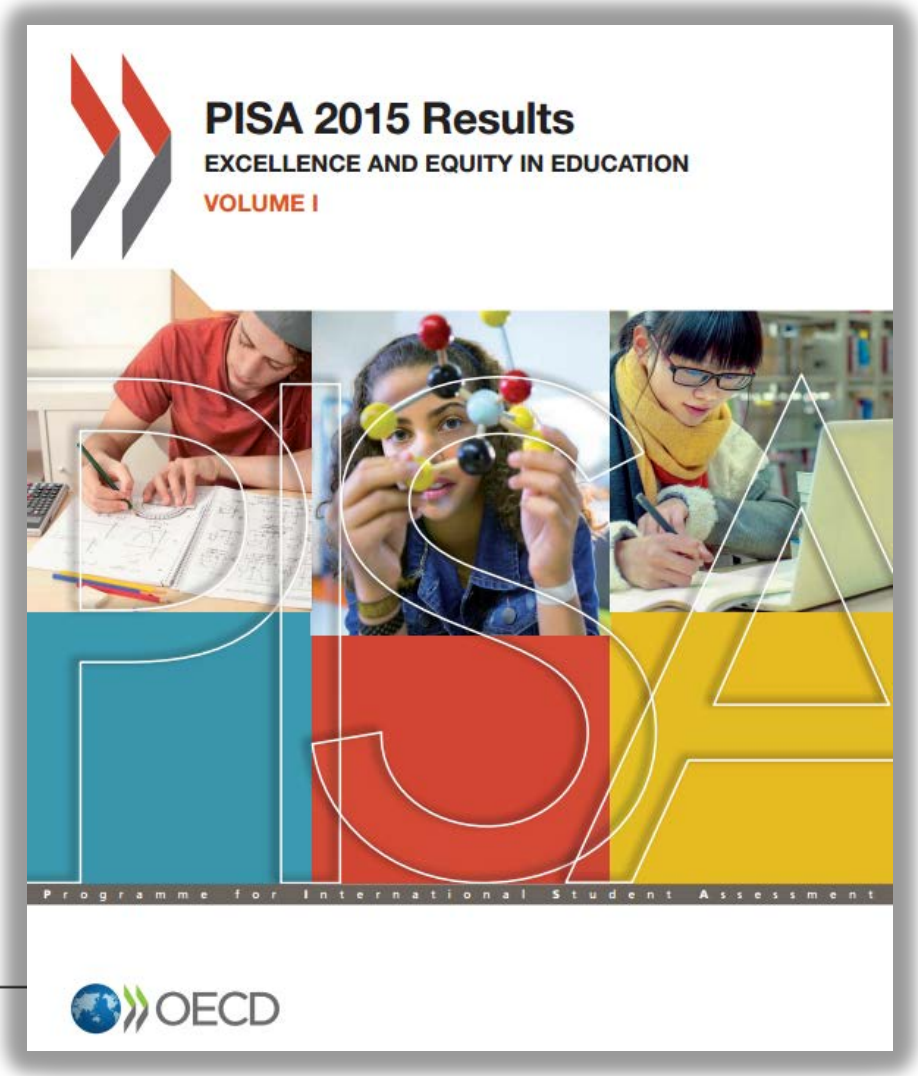
OECD

Science Assessment and Analytical Framework



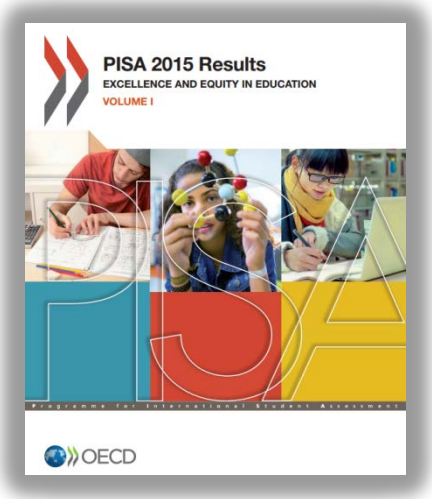
- The PISA 2015 ***definition*** of Science Literacy includes dimensions known as...
- **Inquiry-Based Science Education (IBSE),**
- **Argumentation**
- **Socio-Scientific Issues (SSI).**
- **Epistemic beliefs..**
- **Nature of Science (NOS).**
- **But**: **None** of these are included in the PISA-score!

PISA2015 “What works” Implications for policy:



What PISA 2015 results imply for policy

PISA-paradoxes and problems

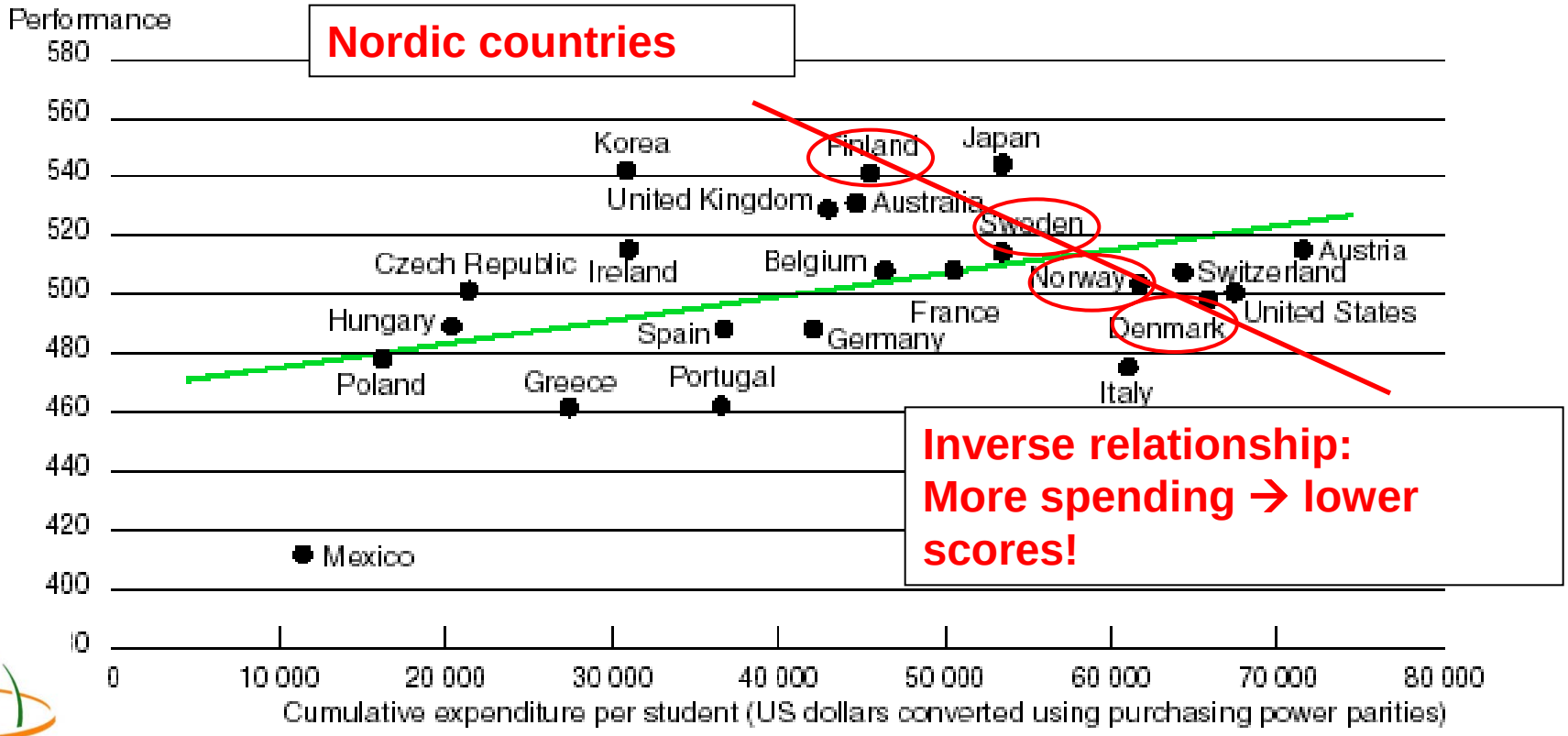


- **No effect on PISA-score:**
- Public spending on schools
- Teacher salaries, Class size
- Teaching time spent on science
- Teacher's Professional Development
- School Leadership and School autonomy
- **Negative effect on PISA-score:**
- **Use of ICT**
- **Inquiry-Based Science Education, IBSE**
- **Experiments and field work**

PISA achievement and expenditure per student

Chart 1. **Student performance and spending per student**

Relationship between average performance across the combined reading, mathematical and scientific literacy scales and cumulative expenditure on educational institutions up to age 15

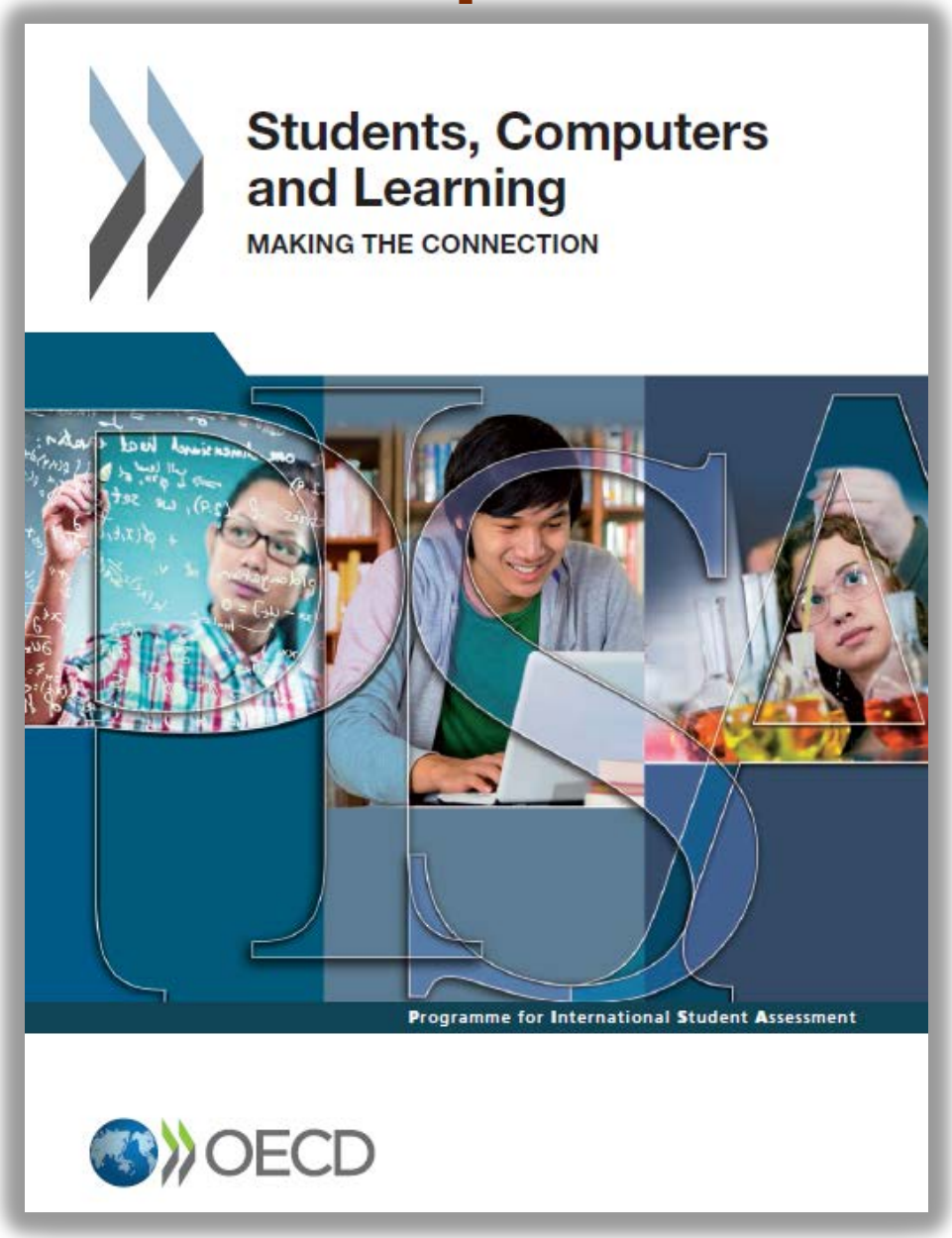


ce: *Knowledge and Skills for Life: First Results from PISA 2000*, OECD, 2001.

OECD PISA

OECD 2015: Students, Computers and Learning

- Norge nær verdenstoppen i IKT-bruk i skolen, PISA-vinnerne nesten lavest.
- *«Ressurser investert i IKT i skolen viser ingen sammenheng med bedring av resultater«*
- *«Bruk av IKT ut over OECD-snittet assosieres med **signifikant dårligere resultater**.»*
- *Grunn til besinnelse? (I alle fall for de som "tror på" PISA)*



PISA “Index of inquiry-based teaching” 9 items, like:

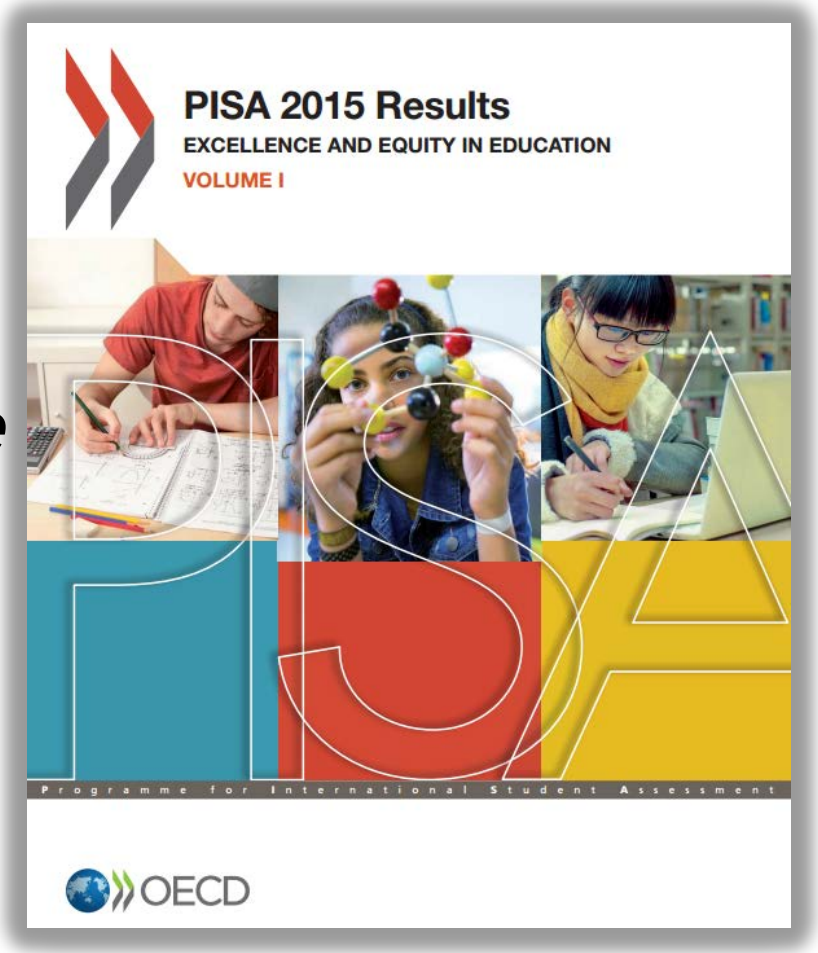
- *Students spend time in the laboratory doing practical experiments;*
- *Students are required to argue about science questions;*
- *Students are asked to draw conclusions from an experiments they have conducted;*
- *Students are allowed to design their own experiments*
- *Students are asked to do an investigation to test ideas.* (OECD 2016c, p 69).

PISA-score and IBSE: Low scores, *but* more positive attitudes and job expectations

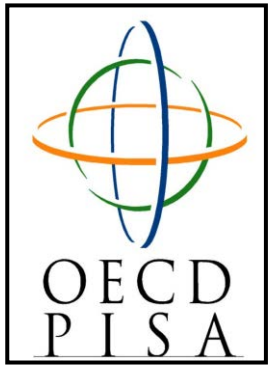
- Students in "PISA-winners" (Japan, Korea, Taiwan, Shanghai, Finland) report very little use of inquiry-based teaching.
- *- in no education system do students who reported that they are frequently exposed to inquiry based instruction [....] score higher in science.*
- ***- However**,.. frequent **inquiry-based teaching** is **positively related** to students ...being more likely to expect to work in a science-related occupation when they are 30*
  (OECD 2016c, p 36)

Experiments and lab work:

- *Activities related to experiments and laboratory work show the **strongest negative relationship** with science performance.*
  (PISA 2015c, p 71)



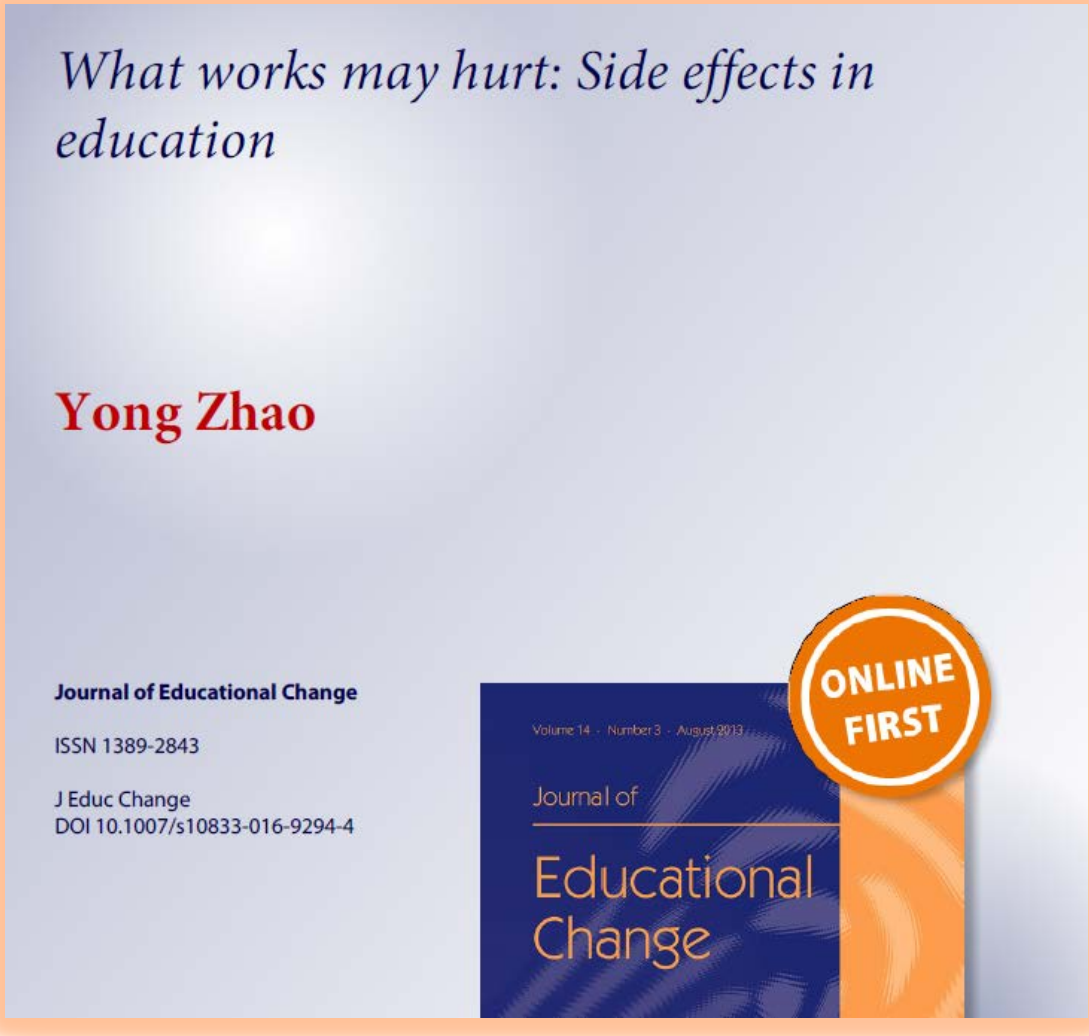
Conclusion: The curses of testing and ranking



- Creating competition among nations, schools, teachers and pupils
- Early testing kills curiosity and joy
- International testing creates panic – and causes ill-founded reforms
- Stressing the measurable, ignoring the essentials
- A pressure that runs against what science educators argue for:
- A context-based and relevant science education
- Active learning and:
- **IBSE: Inquiry Based Science Education**

“What works” may hurt: *Side effects* in Education

- Yong Zhao, 2017:
- Medical research is required to investigate and publish both the intended effects of interventions and their ***unintended adverse*** *effects*, or ***side effects***.
- Not so in Educational research



PISA is used and abused…

https://www.youtube.com/watch?v=8X2ZsmFivk0

PISA and «collateral damage»: Neglect of other subjects

DAGENS NÆRINGSLIV | FREDAG 7. DESEMBER 2007

Dårlige skoletest… svekke norsk indu…

ARBEIDSLIV

Norsk industri er svært bekymret over at norske elever gjør det dårlig på tester. Bedriftene mener det nettopp er mangel på kvalifisert personell som er det største hinderet for videre utvikling.

LARS HENRIK BJØRGUM
OSLO

Dette går frem av en undersøkelse Norsk Industri har gjort.

– Bedriftene anser mangel på kvalifisert arbeidskraft som kritisk. Bedrifter har måttet sette prosjekter på vent på grunn av mangel på kvalifiserte folk til å gjennomføre dem, sier fagsjef John Vigrestad i Norsk Industri.

– Industrien er bekymret. Sett i lys av den historisk lave arbeidsledigheten, er det ikke lett å få tak i kvalifiserte folk. Bekymringen toppes med Pisa-undersøkelsen som viser at norske elever gjør det dårlig, nettopp i fag som trengs i industrien, sier Vigrestad.

Han frykter at Pisa-resultatene kan være langt mer alvorlig enn å måle lese- og skriveferdigheter.

– Dette gjør oss bekymret også på lang sikt. Hva kan vi vente av kandidater som gjør det så dårlig internasjonalt, når de skal ut i arbeidslivet?, spør Vigrestad.

– De som gjør det dårlig i skoletester i dag, skal inn i arbeidslivet om en ti års tid. Hvis vi ikke klarer å høyne nivået innen den tid, er det heller ikke gode utsikter for å rekruttere gode medarbeidere på sikt, sier Vigrestad.

Dårlig reklame

Norsk Industri understreker at vi må ta de dårlige testresultatene og problematikken på alvor.

– Vi må tenke igjennom hva slags skolepolitikk vil skal ha. Vi må ha enda tettere dialog mellom næringsliv, myndigheter og skole om hvordan skolen skal bli bedre, sier Vigrestad.

– Hvis ikke industrien får kvalifiserte medarbeidere i Norge på kortere eller lengre sikt, er det bekymringsfullt i forhold til bedriftenes satsing på FoU i årene fremover. Det er heller ingen god markedsføring for Norge å skilte med Europas dårligste elever, sier Vigrestad.

lars.bjorgum@dn.no

DETTE ER RAPPORTEN

- Norsk Industri er NHOs største landsforening.
- Norsk Industris FoU- og innovasjonsrapport 2007 bygger på svar fra 383 konsern og bedrifter, med en samlet omsetning på 125 milliarder kroner.
- Pisa-undersøkelsen dokumenterer 15-åringenes ferdigheter i lesing, matematikk og naturfag. En annen undersøkelse, Pirls, viser norske 4. og 5.-klassingers leseferdigheter. Begge undersøkelser viser at norske elever presterer dårligere enn før og dårligere enn elever i land vi sammenligner oss med.

KRITISK. – De som gjør de… om en ti års tid, sier John Vi…

22 DN TALENT

Sier nei til drama, dans og musikk

Skeptisk: Gründer og milliardær Ståle Kyllingstad vil ha ungdommen bort fra studier som musikk, dans, drama og medier.

«Lureri»: Slike studier er lureri, ifølge Kyllingstad, som vil ha flere ingeniører og behovsprøvd utdannelse.

UTDANNELSE

ASGAUT NÆSS OG MORTEN ÅNESTAD
SANDNES/STAVANGER

– Vi må ha behovsprøvd utdannelse i dette landet.

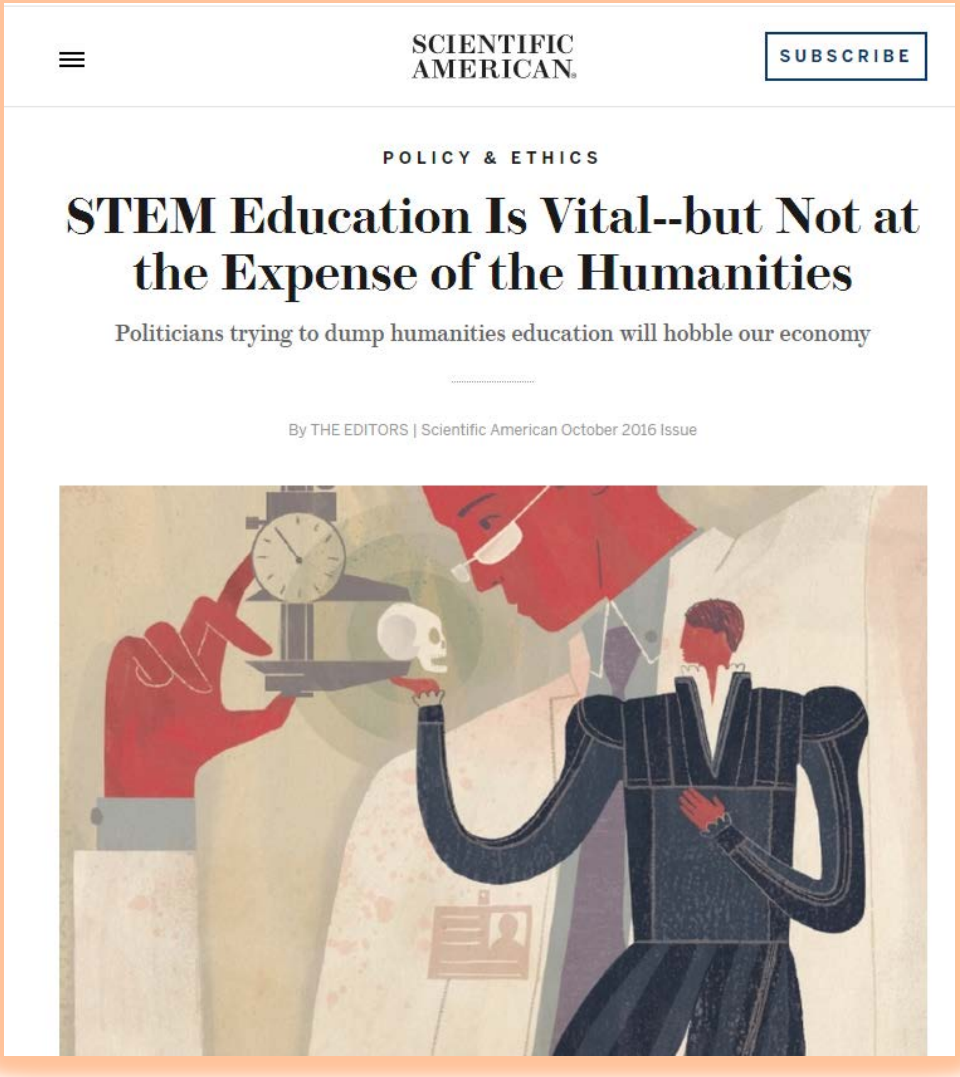
alene. Administrerende direktør Geir Dølvik i det Manpower Group-eide Experis anslo nylig at det er en underdekning på minst 10.000 ingeniører i Norge. Det er trolig et godt anslag. De siste tilgjengelige anslagene fra Nav viser en mangel på 8000. I tillegg til dette tallet kommer

STEM Education is Vital--but *Not* at the Expense of the Humanities

Scientific American, Editorial, Oct 2016

SCIENTIFIC AMERICAN®

- Promoting science and technology education to the exclusion of the humanities may seem like a good idea, *but it is deeply misguided.*
- .. the student who graduates after four years of pursuing physics *plus* poetry may, in fact, be **just the kind of job candidate sought out by employers**



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STEM Education Is Vital--but Not at the Expense of the Humanities

Politicians trying to dump humanities education will hobble our economy

By THE EDITORS | Scientific American October 2016 Issue

Thank you!