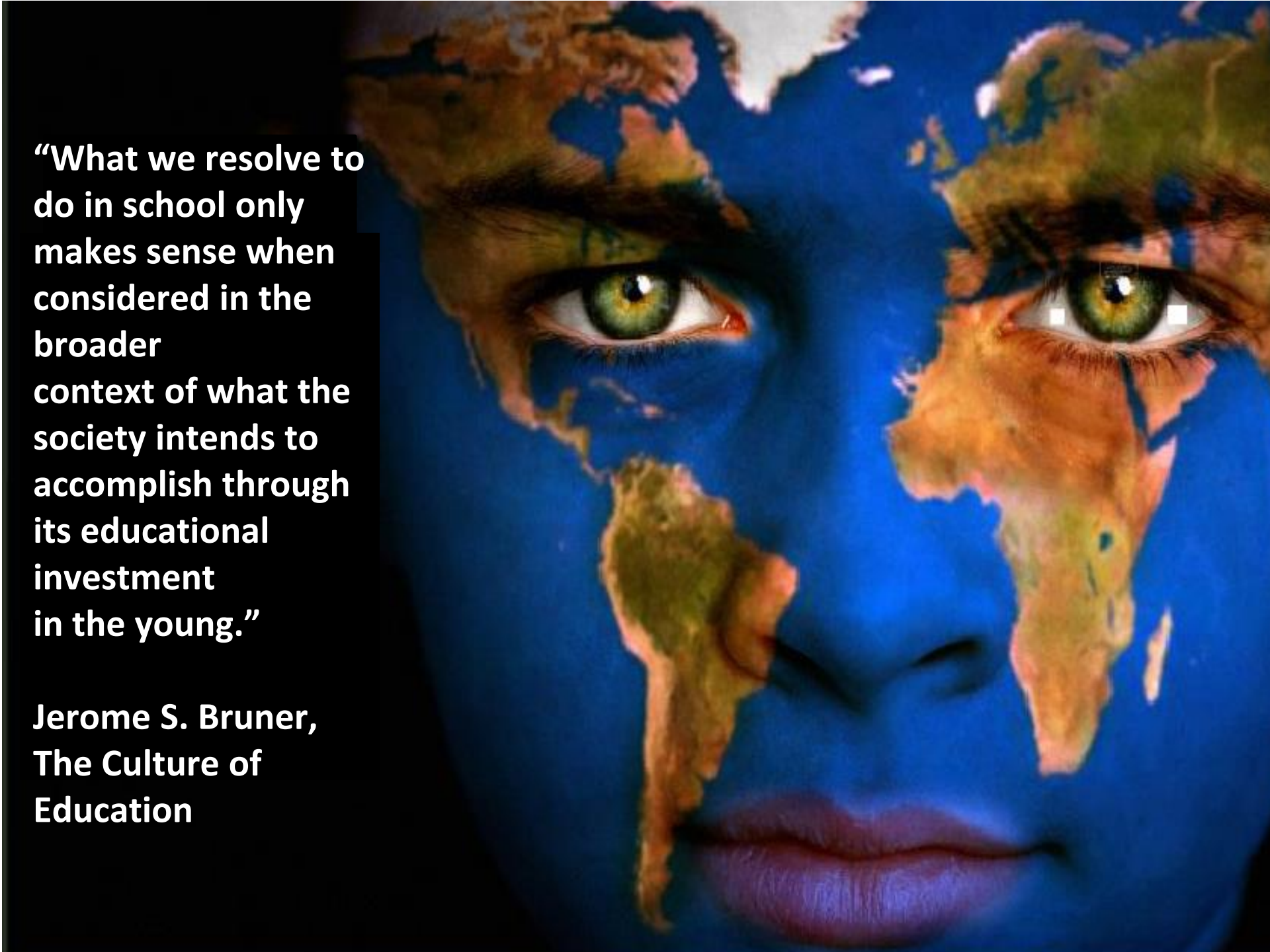


“What we resolve to do in school only makes sense when considered in the broader context of what the society intends to accomplish through its educational investment in the young.”

Jerome S. Bruner, The Culture of Education

Conexus – Building capacities for lifelong learning

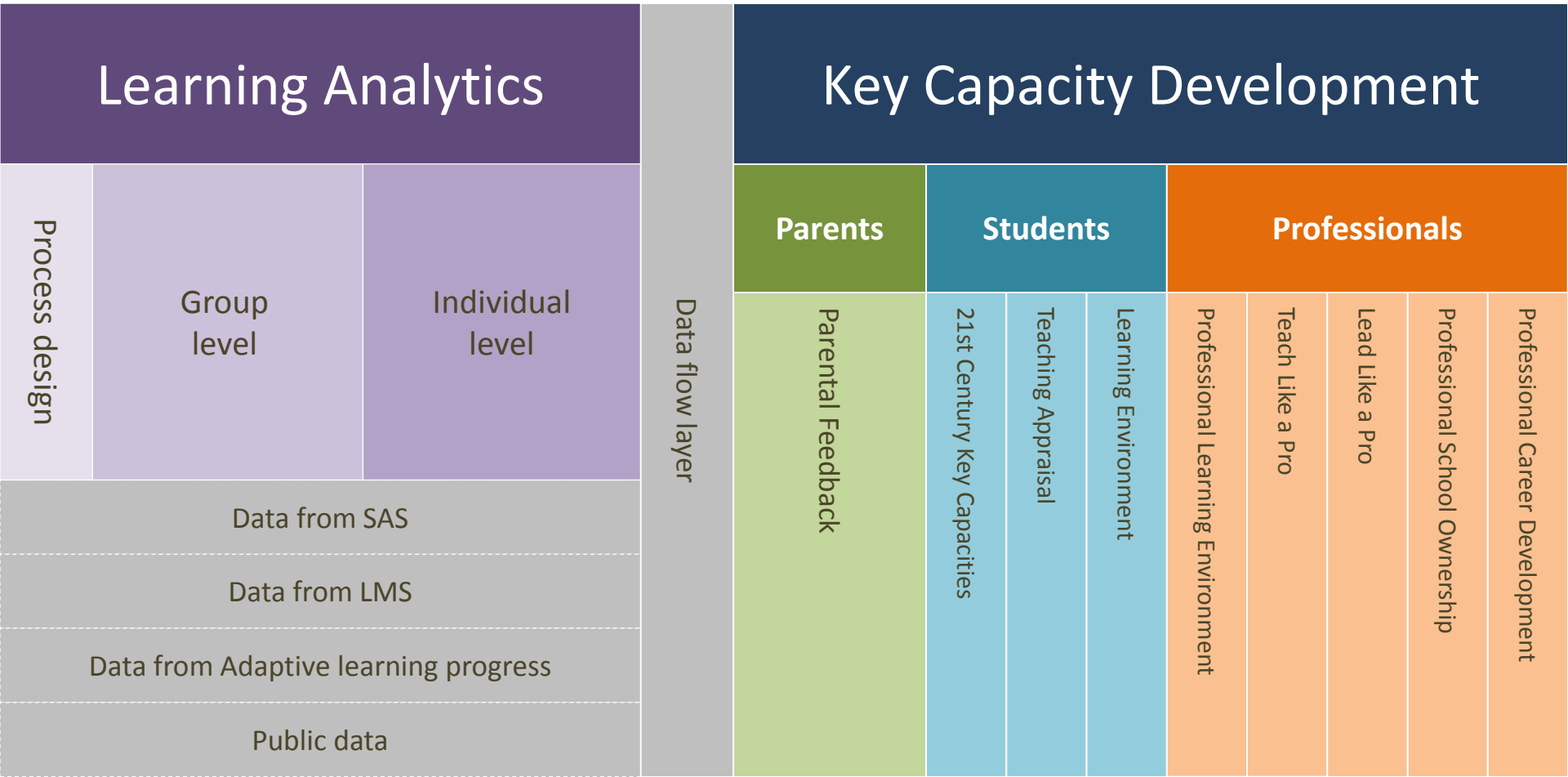
PULS	VOKAL	vip 24	kan:	Advanced solution	mYouTime
Learning analytics	Student analytics and follow up	HR individual follow up	Lifelong learning worklife	surveys	Mobil learning
Aggregert analyse	Individ/ gruppeoversikt	Verdier	Kompetanse-kartlegging	Data-innsamling	24/7 & Just-on-time læring
Tiltak	Oversikt kartlegging	Interesser	Kompetanse-forvaltning	Analyse og rapport	Bruker/elev-tilpasset
Prosess	Vurdering	Preferanser	E-læring	Portaler	M-læring

Academic Feedback and partners:

- Professor Erling Lars Dale
- Professor Peter Mortimore
- Professor Knut Roald
- Professor Louise Stoll
- Professor Kjell B. Hjertø
- Professor Andy Hargreaves
- Professor Viviane Robinson
- Professor Michael Fullan
- Professor Lorna Earl
- IMTEC
- BI
- NHH
- Utdanningsdirektoratet
- Høgskolen i Hedmark
- NOVA
- Senter for IKT i Utdanningen
- Norsk Regnesentral
- Agderforskning
- Aalborg universitet,
- Nasjonalt senter for læringsmiljø og atferdsforskning (Læringsmiljøsenteret) ved Universitetet i Stavanger
- Gyldendal Forlag
- Cappelen Damm
- Aschehoug

Conexus – Release Knowledge!

Our passion is to create tools for Learning Analytics and Key Capacity Development to release the potential in every learner for sustainable global development.

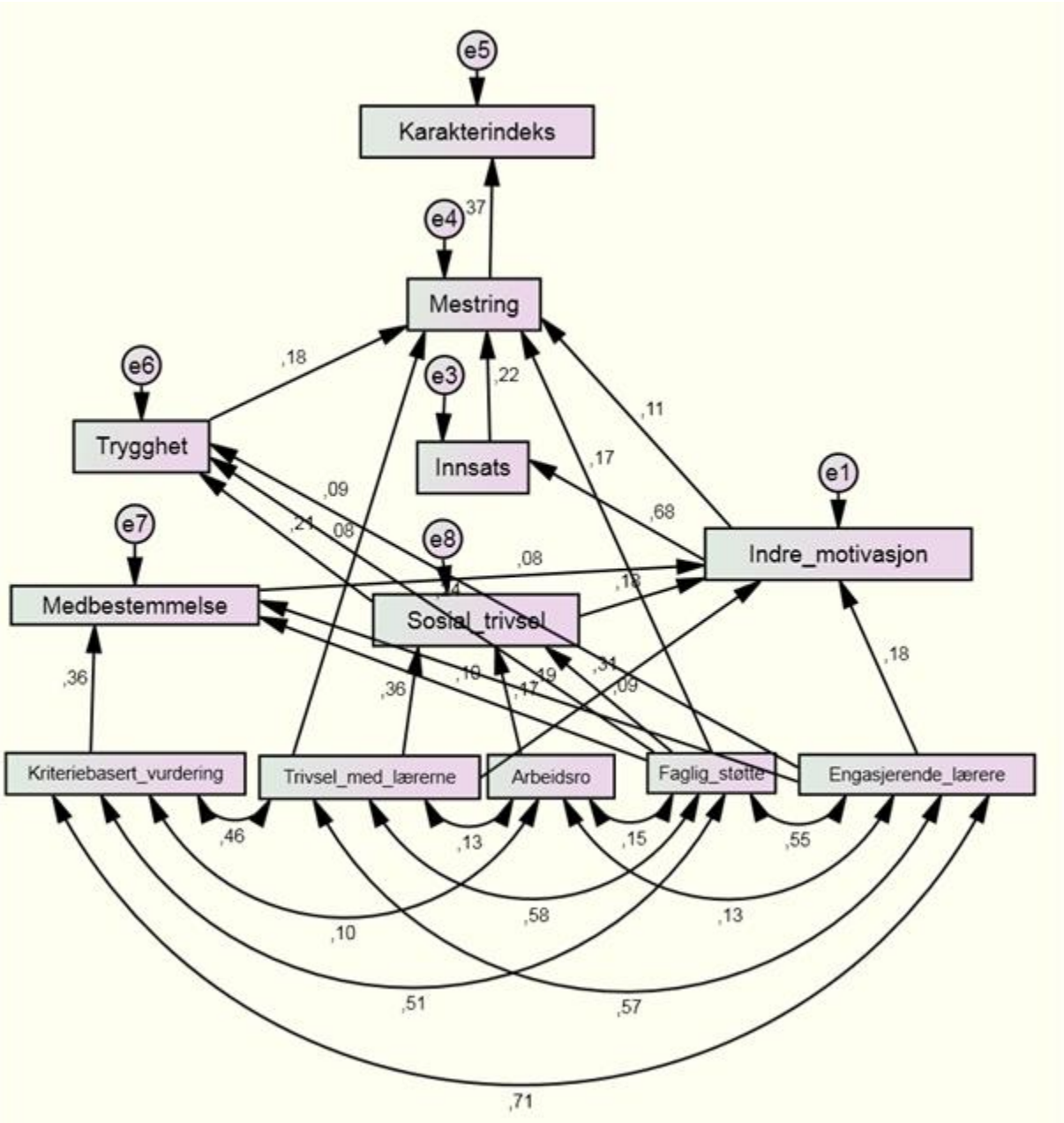


Learning Analytics in Norway

Final estimation of fixed effects				
Fixed Effect	Coef	*t*-ratio	d.f.	*p*-value
For INTRCPT1, β_0				
INTRCPT2, γ_{00}	3,78	169,44	115	<0.001
TRINN_ME, γ_{01}	0,03	0,65	115	0,52
K_MILJ4, γ_{02}	0,13	2,53	115	0,01
LAERER17, γ_{03}	0,33	4,21	115	<0.001
For KJONN slope, β_1				
INTRCPT2, γ_{10}	0,09	2,58	1757	0,01
For KARAKT6 slope, β_2				
INTRCPT2, γ_{20}	0,08	4,33	1757	<0.001
For VEIL3_11 slope, β_3				
INTRCPT2, γ_{30}	0,19	11,97	1757	<0.001
For HJEM3_09 slope, β_4				
INTRCPT2, γ_{40}	0,14	8,59	1757	<0.001

Final estimation of fixed effects				
Fixed Effect	Coef	*t*-ratio	*d.f.*	*p*-value
For INTRCPT1, β_0				
INTRCPT2, γ_{00}	3,78	166,74	115	<0.001
TRINN_ME, γ_{01}	-0,02	-0,39	115	0,70
K_MILJ4, γ_{02}	0,20	3,80	115	<0.001
LAERER17, γ_{03}	0,42	5,84	115	<0.001
For KJONN slope, β_1				
INTRCPT2, γ_{10}	0,10	2,76	1755	0,01
For KARAKT6 slope, β_2				
INTRCPT2, γ_{20}	0,08	4,78	1755	<0.001
For VEIL3_11 slope, β_3				
INTRCPT2, γ_{30}	0,20	12,63	1755	<0.001
TRINN_ME, γ_{31}	0,02	0,56	1755	0,58
LAERER17, γ_{32}	0,10	1,98	1755	0,05
For HJEM3_09 slope, β_4				
INTRCPT2, γ_{40}	0,14	8,84	1755	<0.001

- Individnivå (N=1757/55)
  - Nr.2. Den nest viktigste faktoren for motivasjonen er vellykkede veiledningssamtaler med rådgiver (*t*=11.97, *β*=.19***). Jo bedre *veiledning*, desto bedre *motivasjon*. Rådgivningen er den *mest signifikante* faktoren, men ikke den *sterkeste*.
    - *Hvis man tar med interaksjonen mellom trinn og rådgiver, er det en signifikant interaksjonseffekt mellom rådgivers veiledning og tilfredshet med lærerne på motivasjonen (t=1.97; β=.10; p<.05). Jo bedre lærere , desto bedre effekt av individuell veiledning, ut over den direkte effekten mellom veiledning og motivasjon.*
  - Nr.3: Støtte fra hjemmet. Jo bedre *hjemmestøtte,* desto høyere *motivasjon* (*t*=8.59; *β*=.14***).
  - Nr.5: Kjønn (*t*=2.58; *β*=.09**). Kontrollfaktor.
  - Nr.6: Karakterer (*t*=4.43; *β*=.08***). Kontrollfaktor.
- Gruppenivå (N=115)
  - Nr.1: Viktigste faktor: Lærerne (*t*=4.21; *β*=.33***). Lærerne er de som påvirker elevenes motivasjon mest.
    - NB! Elevene ble ikke spurt om lærernes faglige dyktighet (naturlig nok?).
  - Nr.4: Klassemiljø (*t*=2.53; *β*=.13**).
  - Nr.7: Klassetrinn betyr ingen ting for motivasjonen (kontrollert for de andre faktorene i modellen).
- Konklusjon:


e5
Karakterindeks
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Mestring
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,11
Trygghet
Innsats
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,09
,68
e7
,21
,08
e8
,08
Indre_motivasjon
Medbestemmelse
Sosial_trivsel
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,36
,10
,17
,19
,31
,09
,18
Kriteriebasert_vurdering
Trivsel_med_lærerne
Arbeidsro
Faglig_støtte
Engasjerende_lærere
,46
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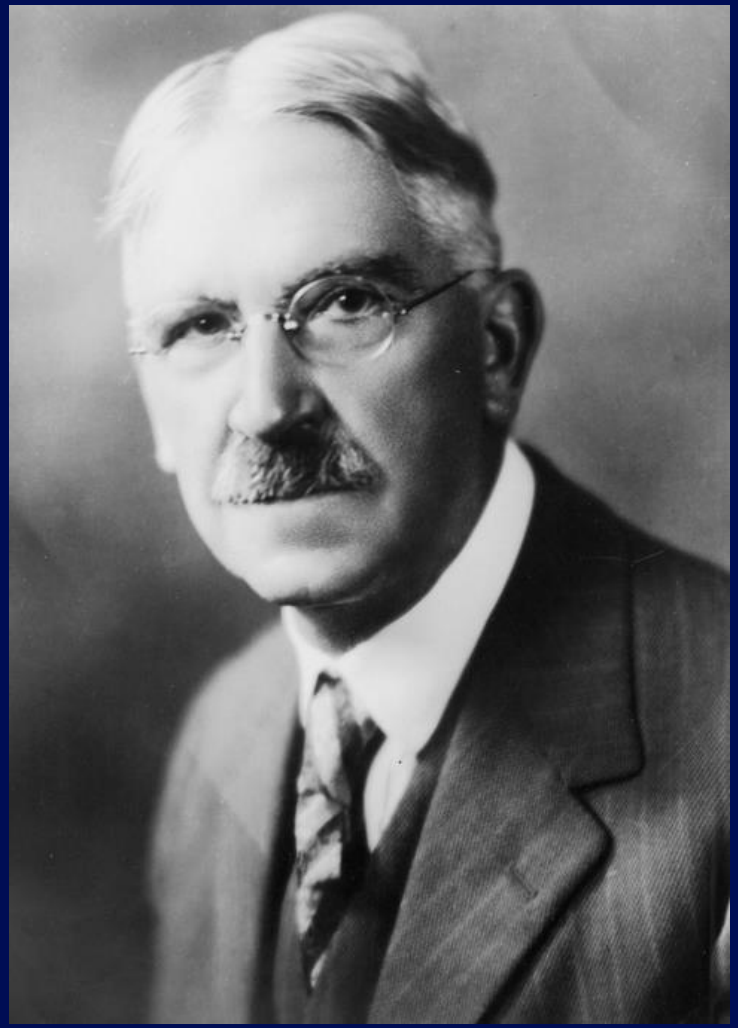
Learning analytics is all about selection and focus

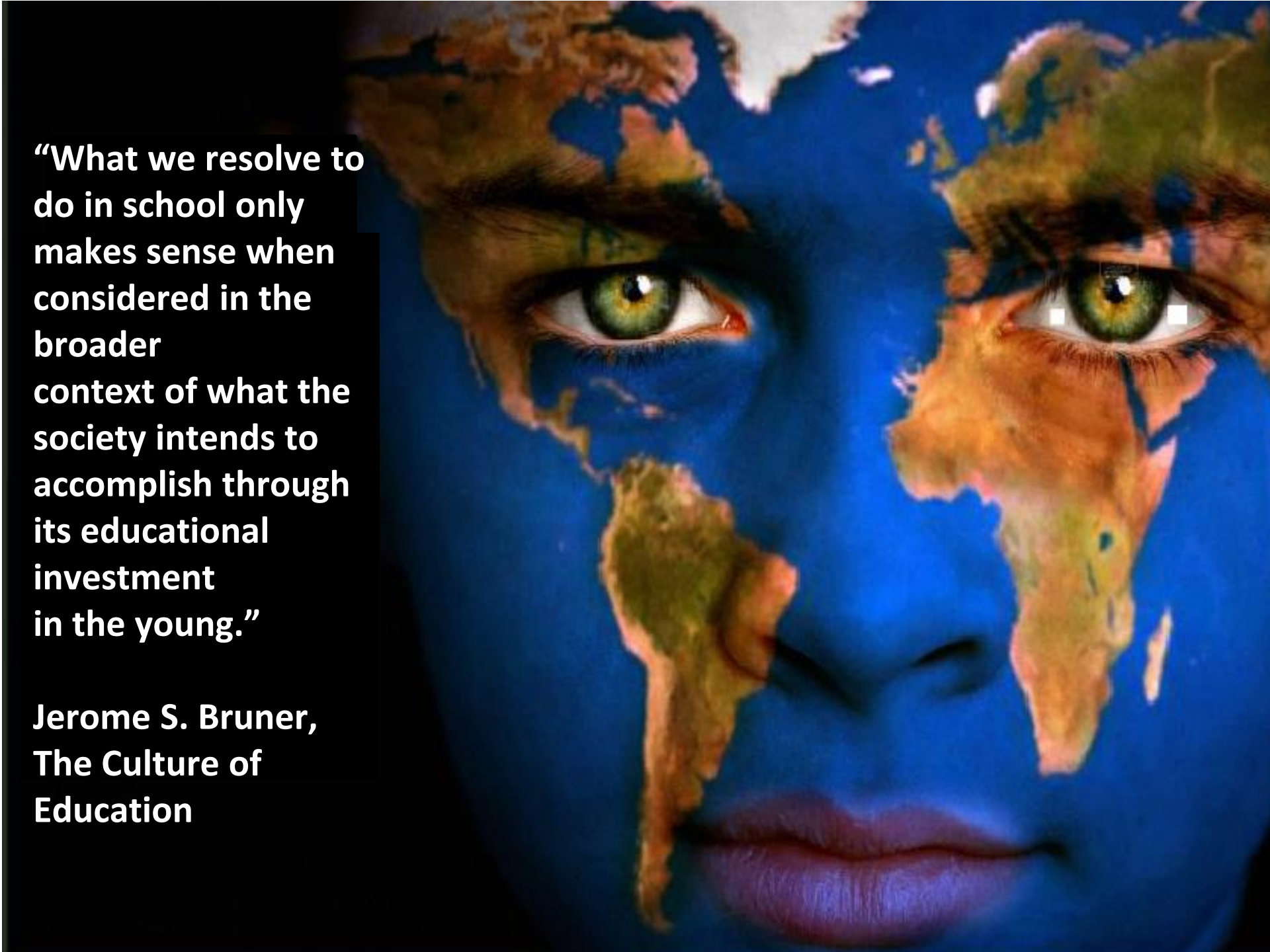
Inquiry and Action



"We do not learn from experience... we learn from reflecting on experience."
— John Dewey

The key is inquiry.

conexus
RELEASE KNOWLEDGE



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Jerome S. Bruner, The Culture of Education

ISTE Standards

The 21st Century Competencies (21CC) Framework

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Transforming education in Europe

UNESCO
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PARTNERSHIP FOR 21ST CENTURY SKILLS

ROUTE 21

LUDVIGSEN-UTVALGET
Et offentlig utvalg nedsatt av Kunnskapsdepartementet som skal vurdere i hvilken grad skolen dekker de kompetanser elevene vil trenge i fremtiden.

THE GLOSSARY OF
EDUCATION REFORM
FOR JOURNALISTS, PARENTS, AND COMMUNITY MEMBERS


Fremtidens skole

Global Forum

A life changing experience

Educators tell us year after year that they return home from the Global Forum invigorated and inspired. Attendees return to their school with fresh ideas and the tools to turn them into a reality.

The Microsoft in Education Global Forum recognizes and celebrates the achievements of educators who are preparing students for life in the 21st century. Each year, the Microsoft in Education Global Forum brings together participants from the Microsoft Innovative Educators Program and the Microsoft Innovative Schools Program for an energetic, collaborative conference. This high profile event is attended by more than 700 of the world's most innovative educators, school leaders, and education leaders from 75 countries, along with government officials.

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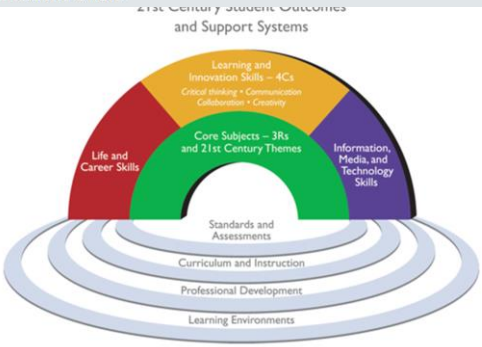
Vurdering av framtidas kompetanse

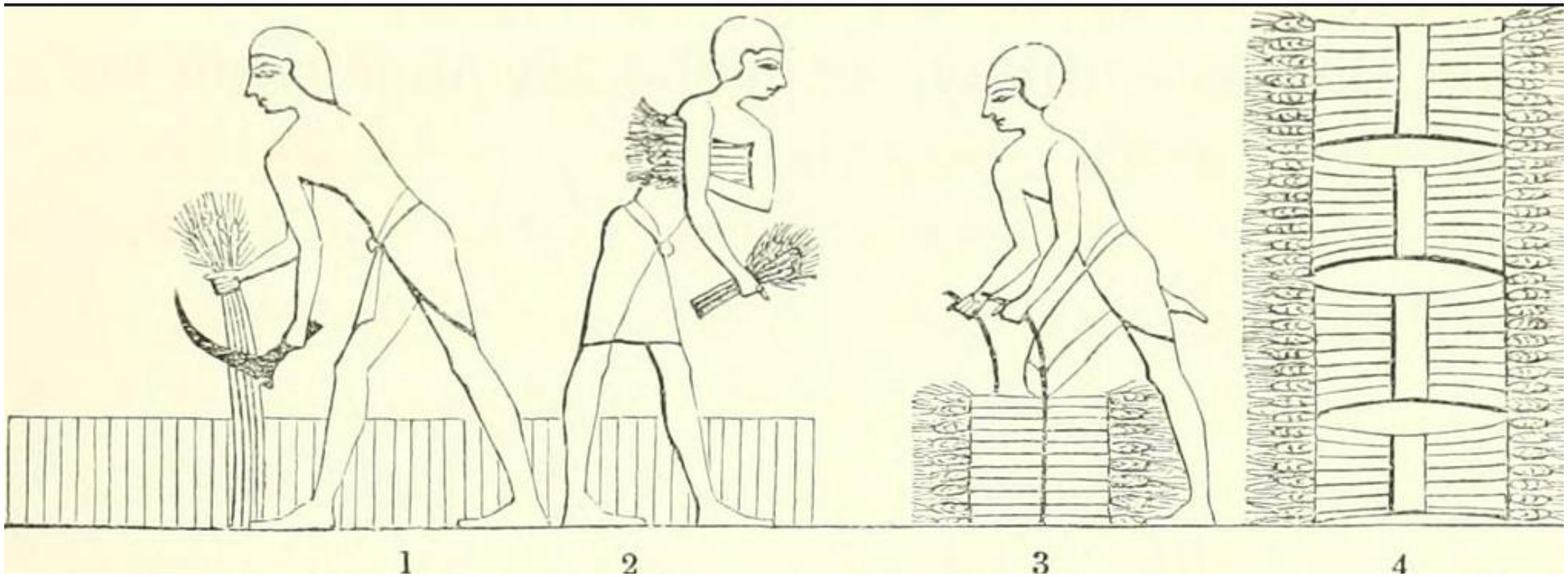


21 Century learning and working ?

http://thewingtoheaven.wordpress.com/2012/01/08/why-21st-century-skills-are-not-that-21st-century/

~~21 Century~~ learning ?

Key Capacities for Lifelong Learning



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Angkor

Dave Hannan

the First great wave of invention and economic disruption late 17th and early 18th centuries

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The Golden Boys

The third great wave of invention and economic disruption

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The third great wave

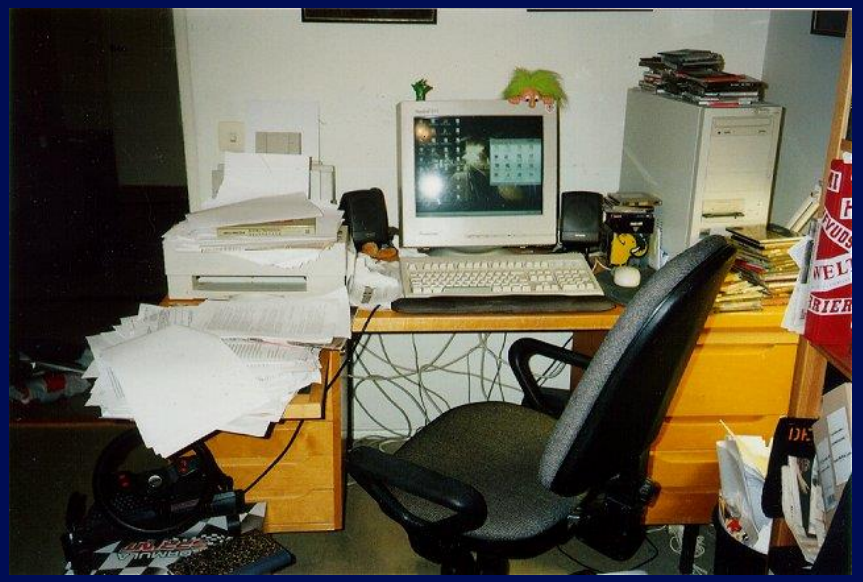
The first two industrial revolutions inflicted plenty of pain but ultimately benefited everyone. The digital one may prove far more divisive, argues Ryan Avent

Oct 4th 2014 | From the print edition

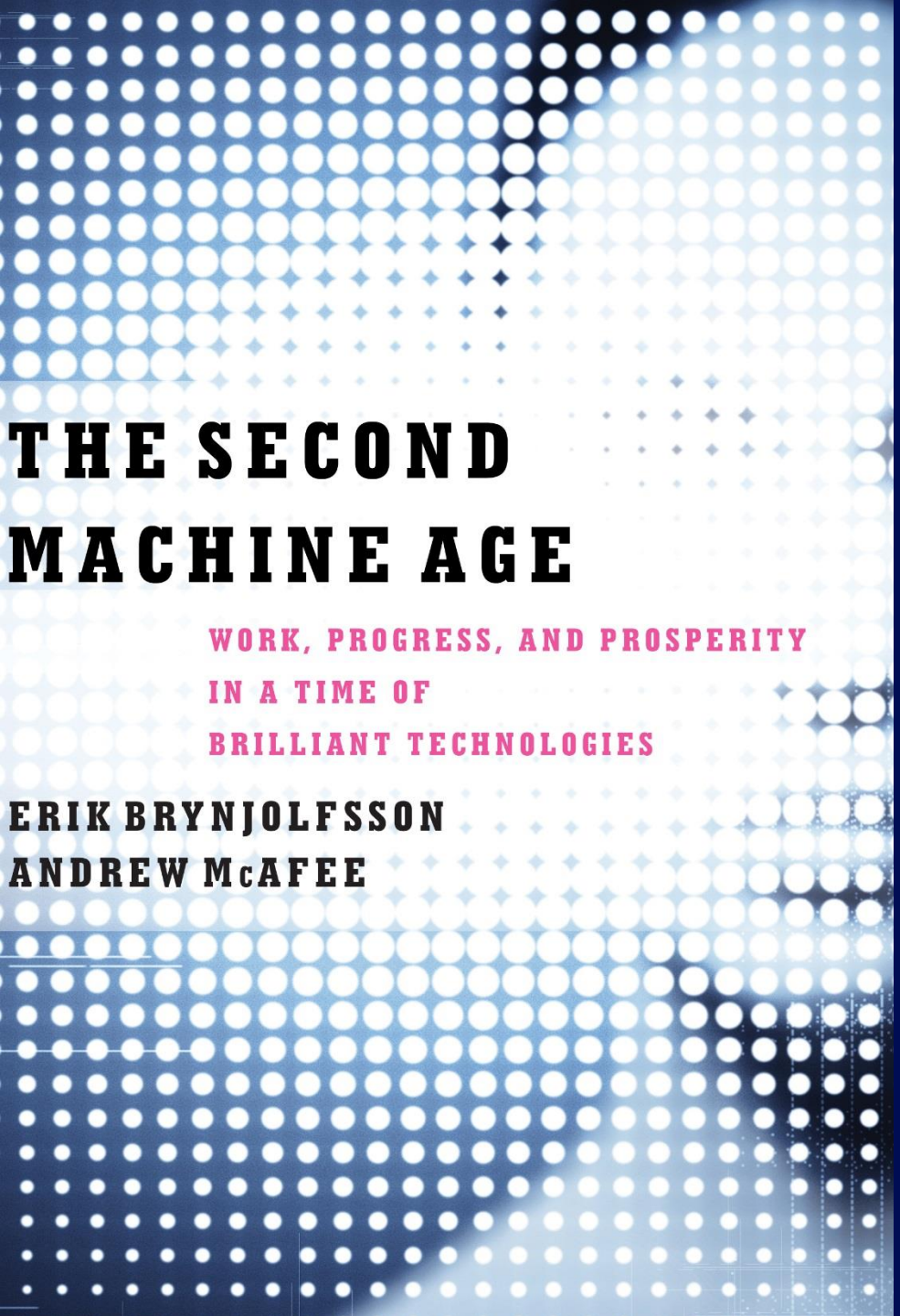
http://www.economist.com/news/special-report/21621156-first-two-industrial-revolutions-inflicted-plenty-pain-ultimately-benefited

Hvorfor nå

Informational age workplace 1998



En teknologisk revolusjon, men ingen store endringer i læring, arbeid og organisasjon



Rather than approaching a period of mature decline, (…), these technologies are about to take off

"We seem to be sitting at the heart of a perfect storm where a lot of things are happening faster than our ability to predict and strategize"

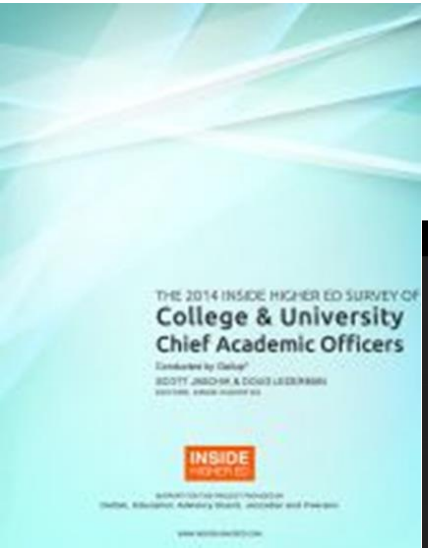
Paul J. LeBlanc
President of Southern New Hampshire University

Hvor stor andel av studentene er klare for arbeidslivet?

96% 11%

Ifølge universitetslederne

Ifølge næringslivslederne



1

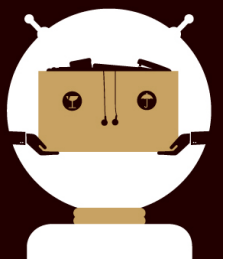
Strukturelt

FEATURED STORY

How Technology Is Destroying Jobs

By David Rotman on June 12, 2013

777 COMMENTS

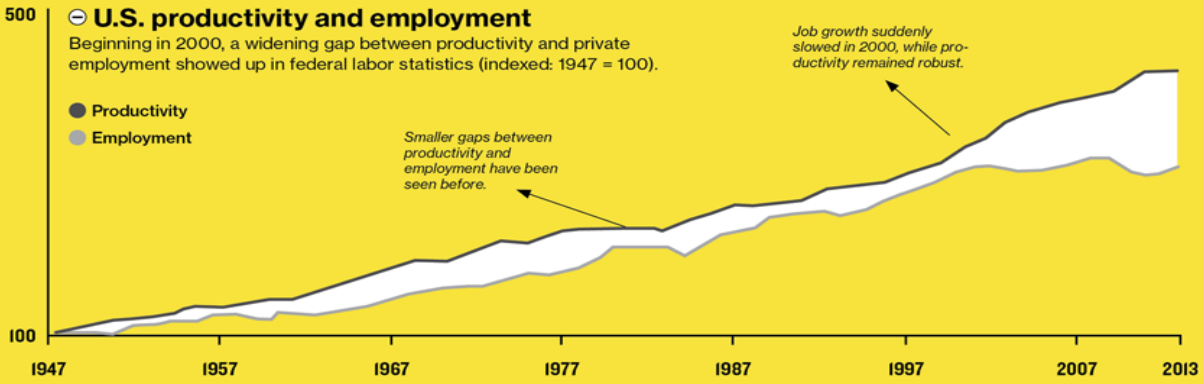


Decoupling Productivity and Employment

Digital technologies have boosted productivity in the United States without also spurring the expected job growth, argue Erik Brynjolfsson and Andrew McAfee. A result of this decoupling is that while gross domestic product (GDP) has risen, median income has not, and inequality has grown.

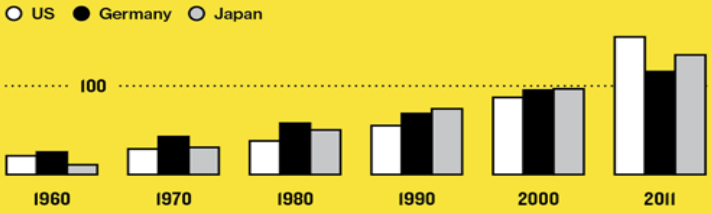
U.S. productivity and employment

Beginning in 2000, a widening gap between productivity and private employment showed up in federal labor statistics (indexed: 1947 = 100).



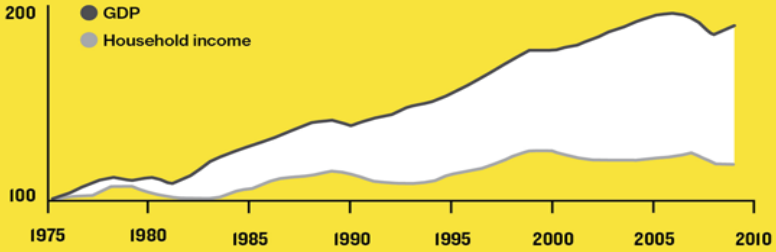
Output per employed person in manufacturing

In leading advanced manufacturing countries, output per worker has grown impressively as factories have become more automated (indexed: 2002 = 100).



U.S. GDP per capita and household income

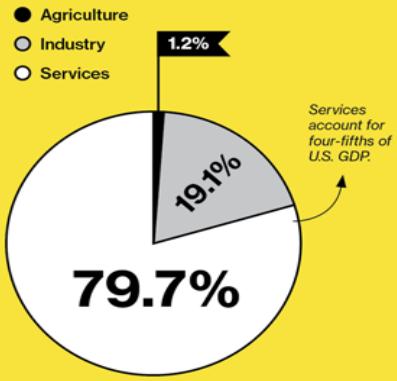
While the nation's total output has generally grown over the last 25 years, the median household income has been nearly stagnant (indexed: 1975 = 100).



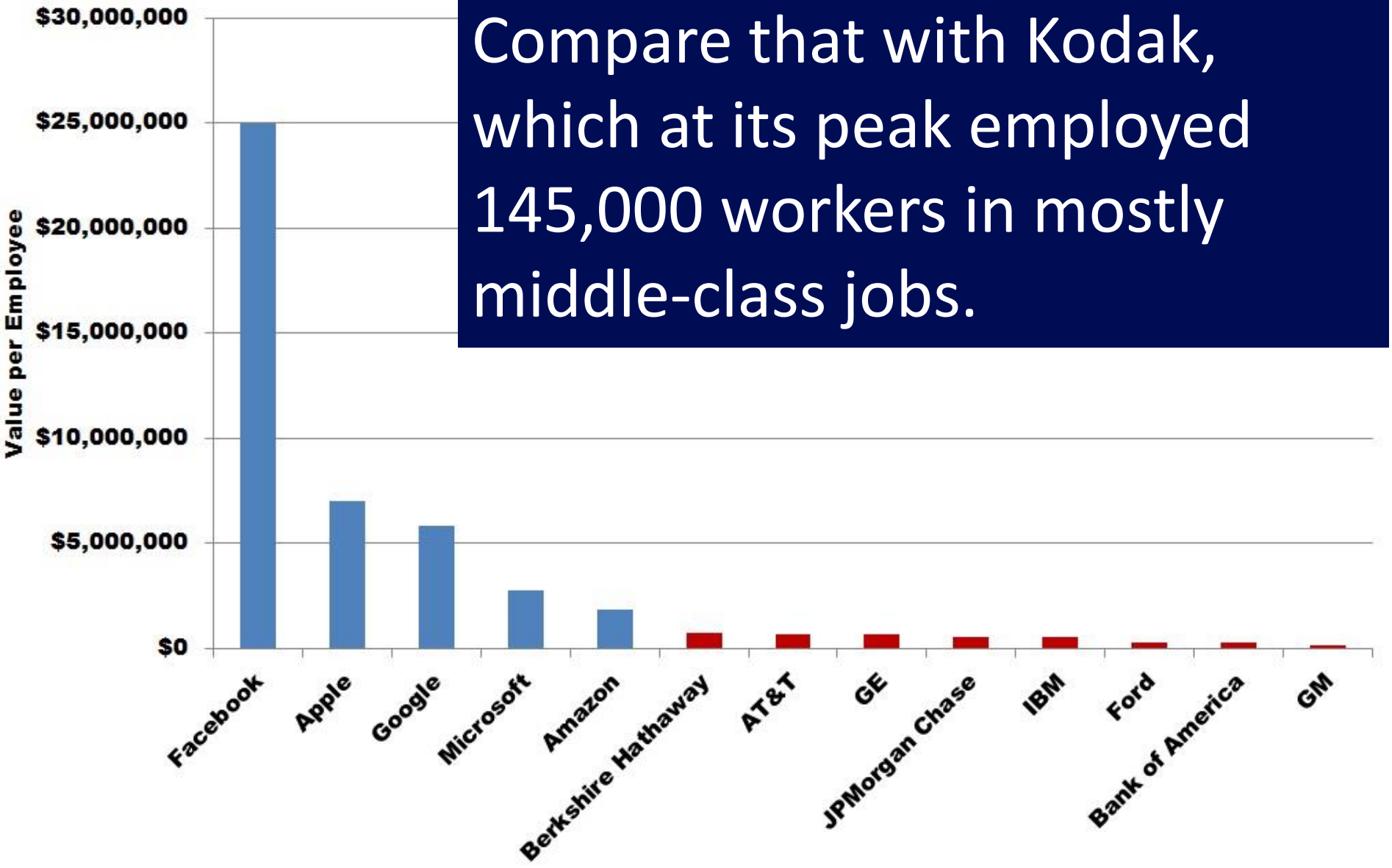
320k Industrial robots sold in the last two years

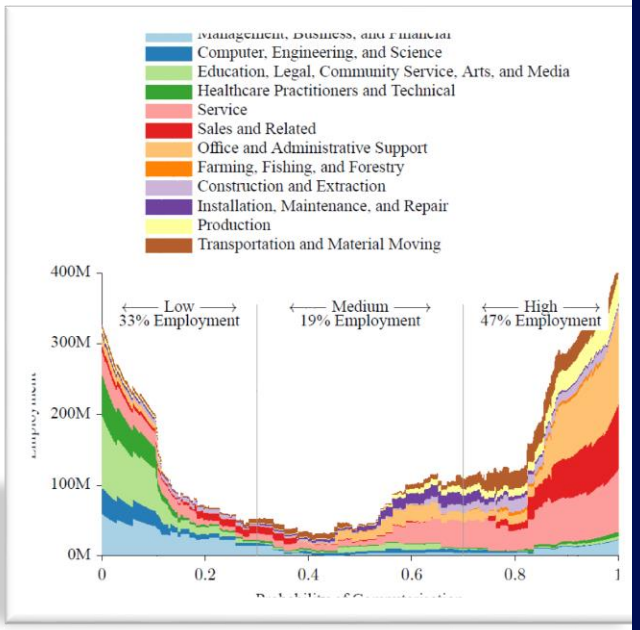
Automation in services has a dramatic effect

Making service work more efficient has an outsize impact on productivity figures because the sector is so large.

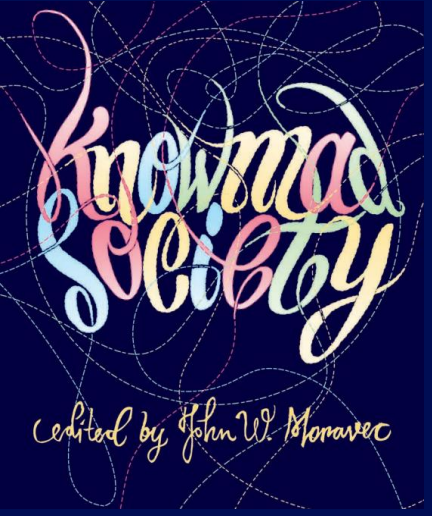


Facebook/Instagram employs only 4,600 workers.
Compare that with Kodak, which at its peak employed 145,000 workers in mostly middle-class jobs.





(…)700 different occupations to see how easily they could be computerized, and concluded that 47% of employment (…)is at high risk of being automated away over the next decade …



The knowmadic worker

Building capacities for “multi-skilled profiles”

2

Arbeidsmarked

"…As a result Europe might face a shortage of up to 900,000 ICT professionals by 2020, risking its potential for growth and digital competitiveness."

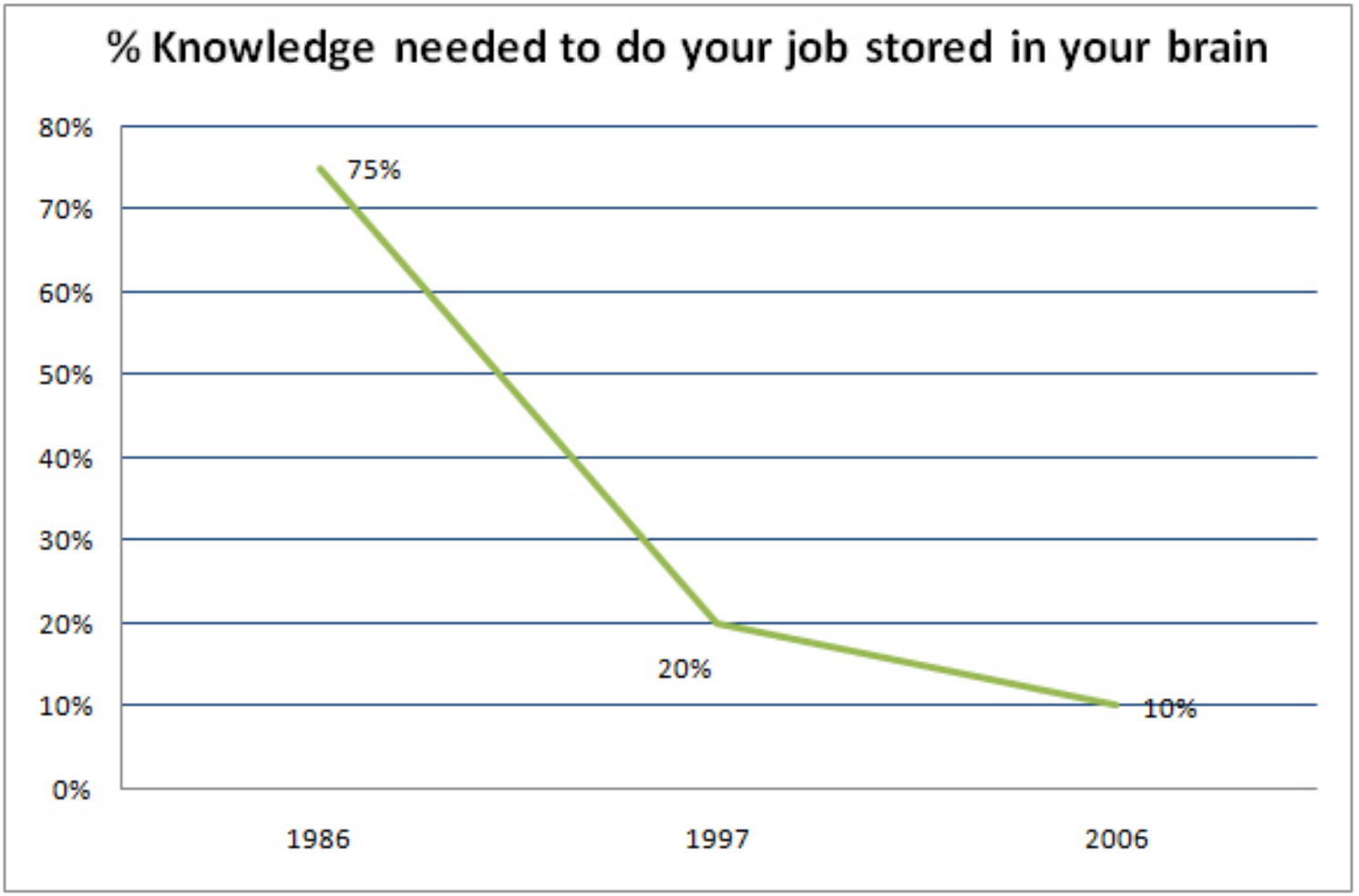
Aksel Kjær Vidnes 06.01.2015

Når vi vurderer studenters utdanningsvalg ut ifra samfunnets nytte, jager vi et mål i bevegelse. Det er få på jorden (eller andre steder) som kan spå hva som er nyttig i en tenkt fremtid. -

3

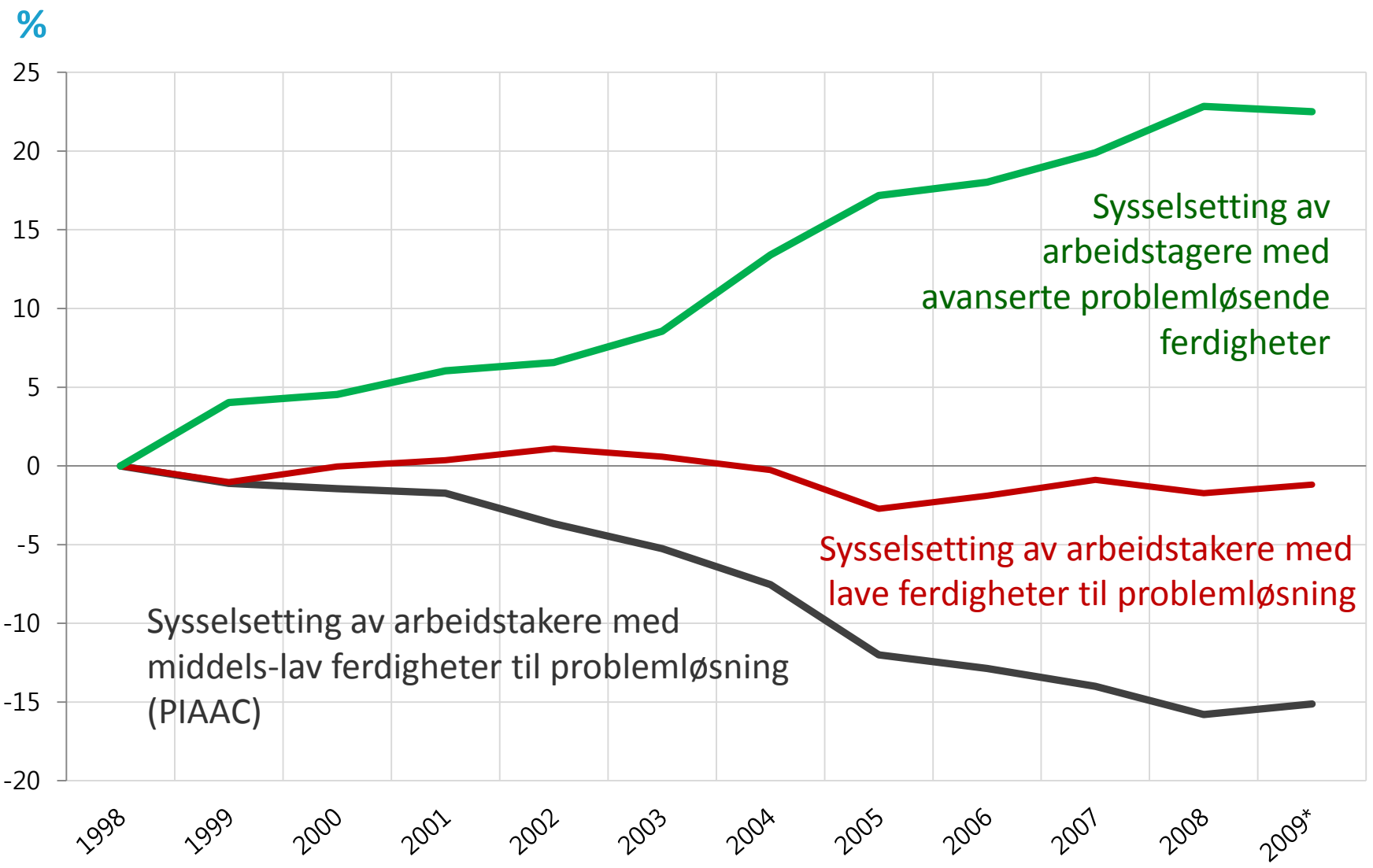
Kunnskap og kompetanse

Endringer i kompetansebehov



Robert Kelly, Carnegie Mellon University

Kravene til komplekse ferdigheter

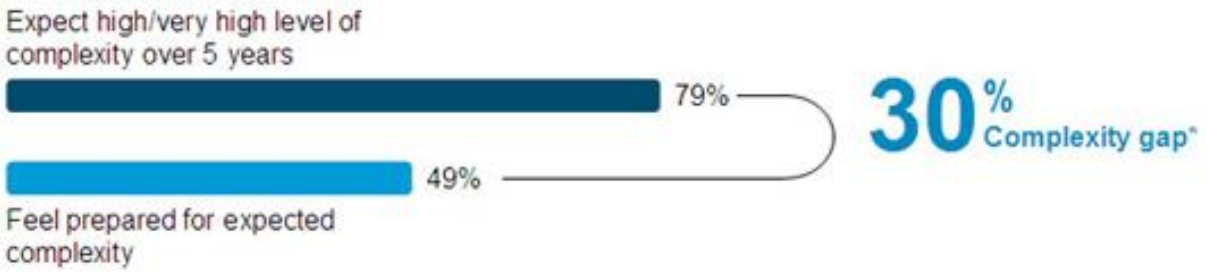


Source:PIAAC 2011

IBM

CEOs are now challenged to close the complexity gap and use complexity to their advantage

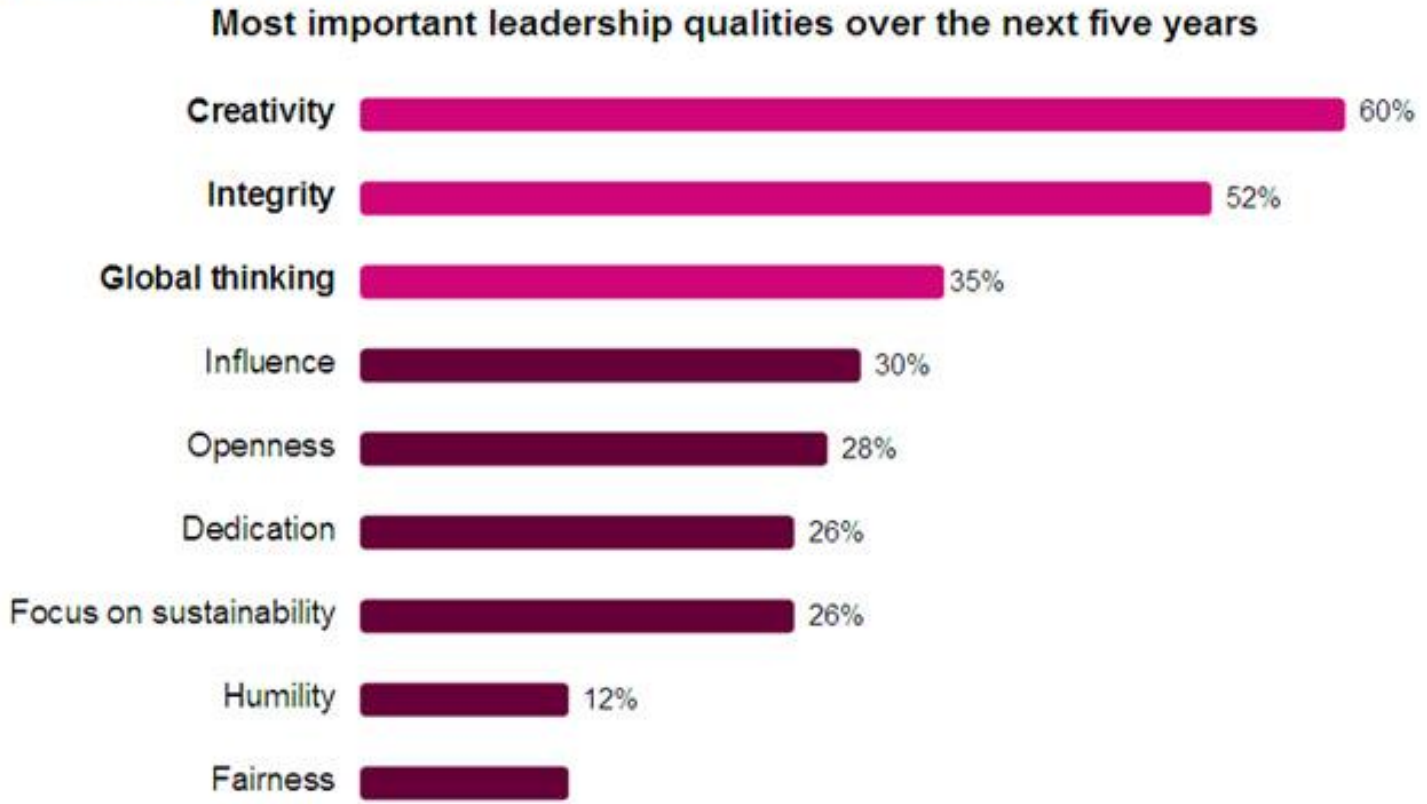
Expected level of complexity and preparedness to handle



* Complexity gap = difference between expected complexity and the extent to which CEOs feel prepared to manage complexity

IBM

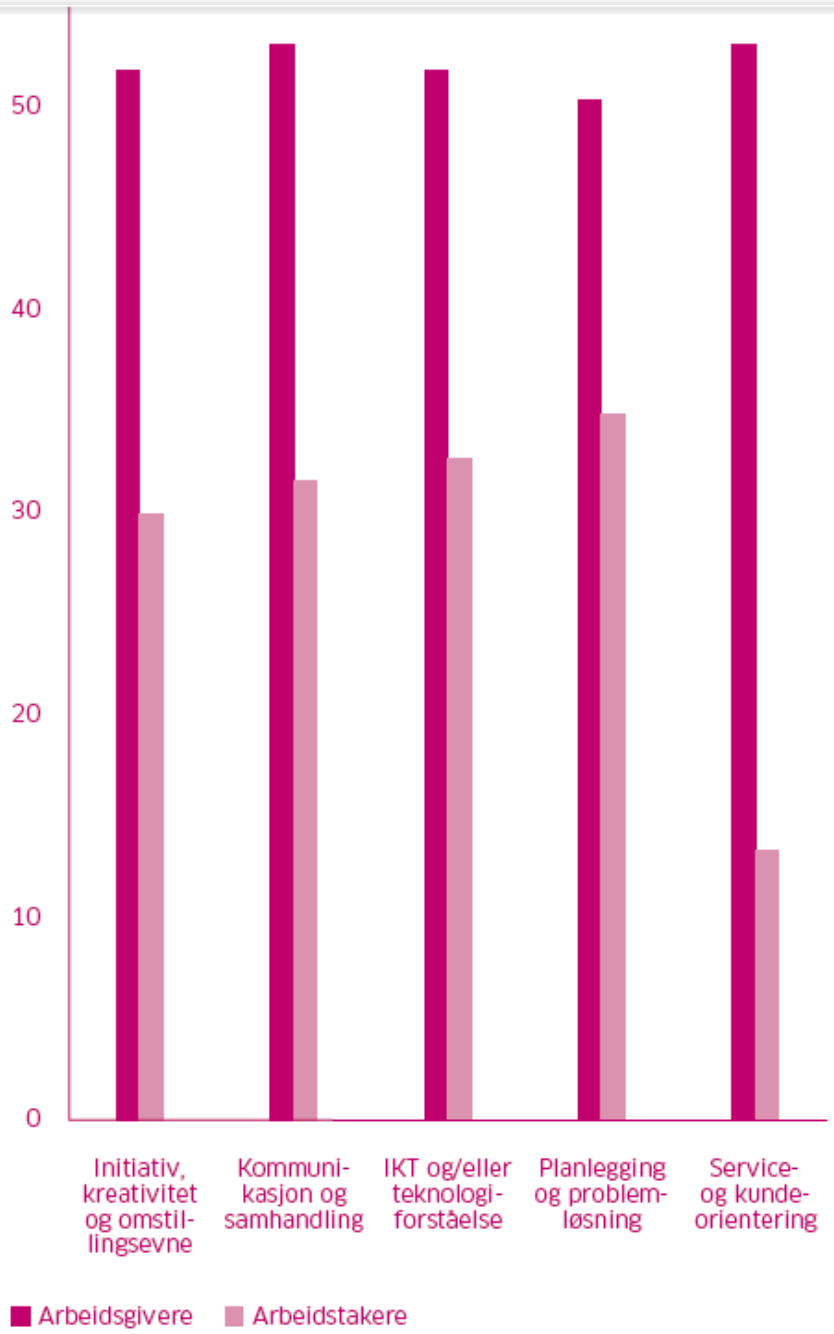
CEOs identified creativity as the #1 leadership quality required to capitalize on complexity



2010 IBM Global CEO Study: Capitalizing on Complexity

ibm.com/ceostudy

HVILKE KOMPETANSEOMRÅDER KAN ARBEIDSTAKEREN BLI BEDRE PÅ?



FORSLAG TIL BEDRE SAMSPILL

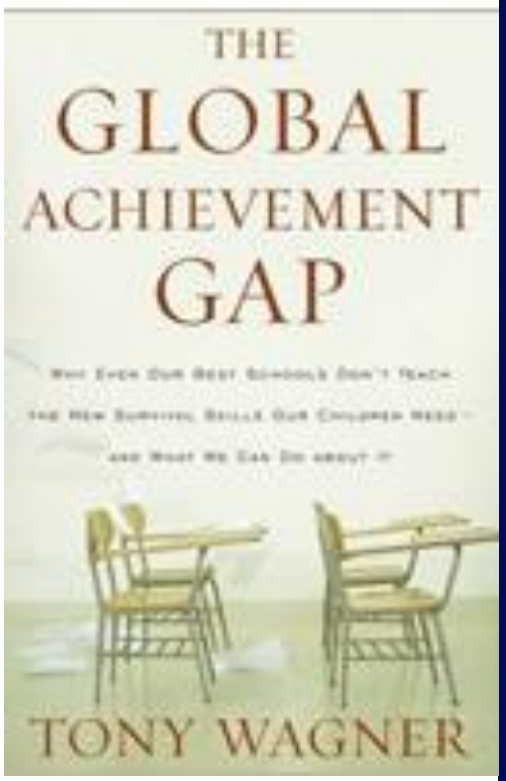
- La oss få alle skoler til å opp-rette en funksjon som arbeids-livsveileder (ALV).
- Alle bachelorstudenter skal få et tilbud om praksis i arbeidslivet som del av studiet
- Vi må ha jevnlige kompetanse-politiske toppmøter mellom den politiske ledelsen og part-ene i arbeidslivet for å drøfte hvordan vi kan bl et foregangs-land på topp 5 områdene
- Skoleledere og lærere må få insitamenter til egen utvikling av personlige kompetanser, og vi må løse utfordringen med at elevenes kompetanser på disse områdene ikke måles
- Alle beskrivelser av lærings-utbytte må kunne forstås like godt i arbeidslivet og i utdanningssystemet.

“In 1970 the top three skills required by the Fortune 500 were the three Rs:
reading, writing, and arithmetic.

In 1999 the top three skills in demand were
teamwork, problem-solving,
and interpersonal skills.

We need schools that are developing these skills.”

Linda Darling-Hammond, professor of education at Stanford



1. Kritisk tenkning og problemløsing
2. Samarbeid på tvers av nettverk
3. Fleksibilitet og tilpasningsevne
4. Initiativ og entreprenørskap.
5. Effektiv muntlig og skriftlig kommunikasjon
6. Kunnskaper i å analysere informasjon
7. Nysgjerrighet og fantasi/ kreativitet.

The 10 Skills Employers Most Want In 2015 Graduates

Forbes

1. Ability to work in a team structure
2. Ability to make decisions and solve problems
3. Ability to communicate verbally with people inside and outside an organization
4. Ability to plan, organize and prioritize work
5. Ability to obtain and process information
6. Ability to analyze quantitative data
7. Technical knowledge related to the job
8. Proficiency with computer software programs
9. Ability to create and/or edit written reports
10. Ability to sell and influence others

Foreword by
Peter Johnston

Luke Reynolds, EDITOR

Imagine It Better

VISIONS OF WHAT SCHOOL MIGHT BE

Contributing Authors:

Samantha Bennett • Noam Chomsky • Marilyn Cochran-Smith • Linda Darling-Hammond
Sayantani DasGupta • Sandy Grande • Andy Hargreaves • Deb Kelt • William Kist
Gholnecsar Muhammad • Sonia Nieto • Marc Prensky • Olugbemisola Rhuday-Perkovich
Allison Skerrett • Rebecca Stern • Eve Tuck • Tony Wagner • Zoe Weil • Steven Zemelman

matter most in students' work — just as it is in the business world. Google famously used to hire students only from brand-name colleges with the highest GPAs and test scores. However, according to recent interviews with Laszlo Bock, Senior Vice President of People Operations at Google, these data are "worthless" as predictors of employee effectiveness at Google. The company now looks for evidence of a sense of mission and personal autonomy and is increasingly hiring people who do not have a college degree (Lazlo 2013, Lohr 2013).

investigations, or just explore something that interests them — and the students can document their learning in their digital portfolios. Google and other companies have found that many of their most important innovations have come from giving their employees 15 to 20 percent of their time to work on any project of their choice. Perhaps the most important thing teachers can do is to bring more play, passion, and purpose into every lesson plan.

The Hard Truth About Soft Skills

BY MORGAN BROWNING *President and COO, Emergenetics International*

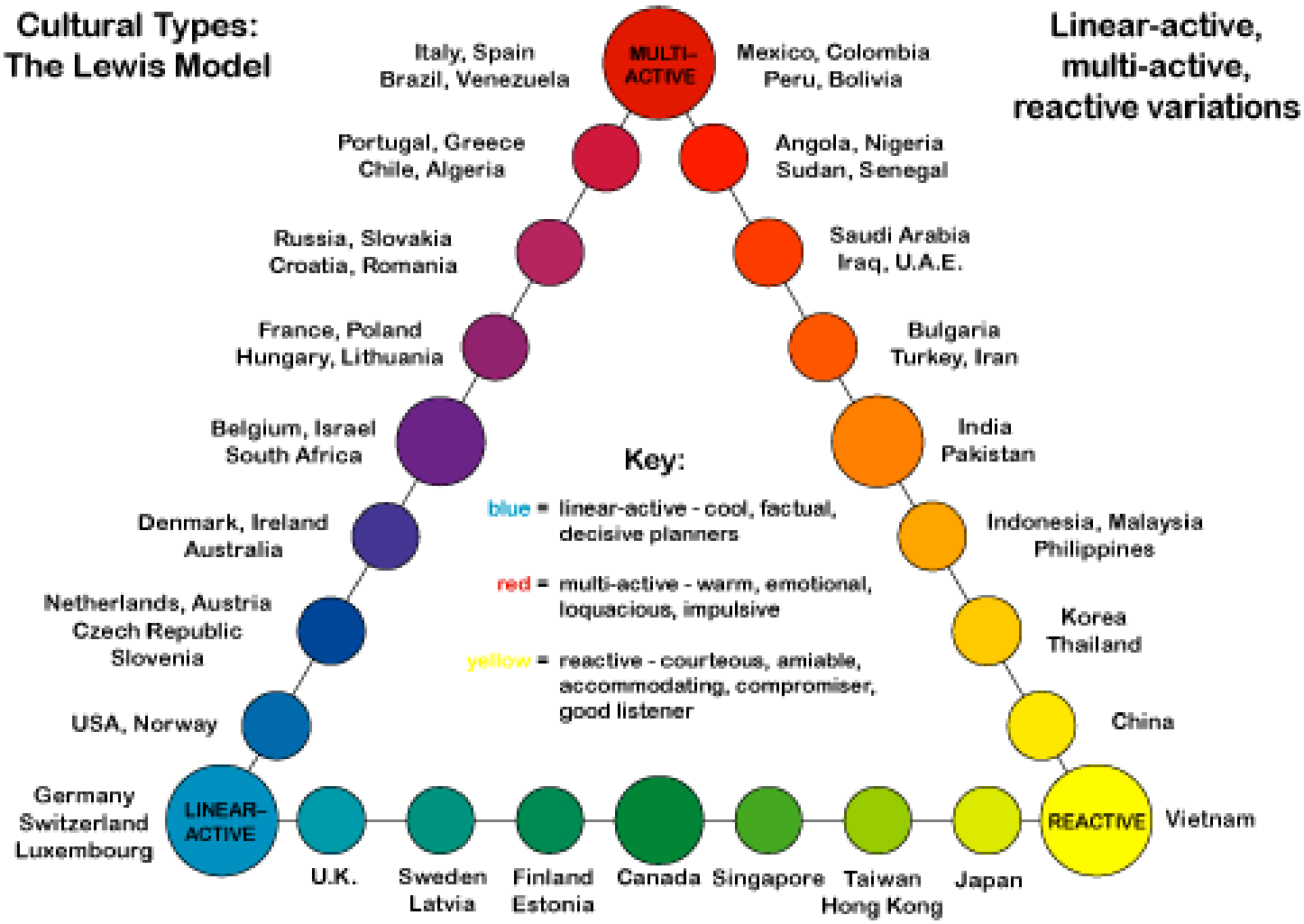
we can determine hard skills fairly easily and get people in the right jobs. Failures are far more likely to arise when there's a communication breakdown, a toxic team dynamic, or a lack of critical thinking. Soft skills don't seem so soft when you think about it that way.

Hva er bak de fjella pappa?

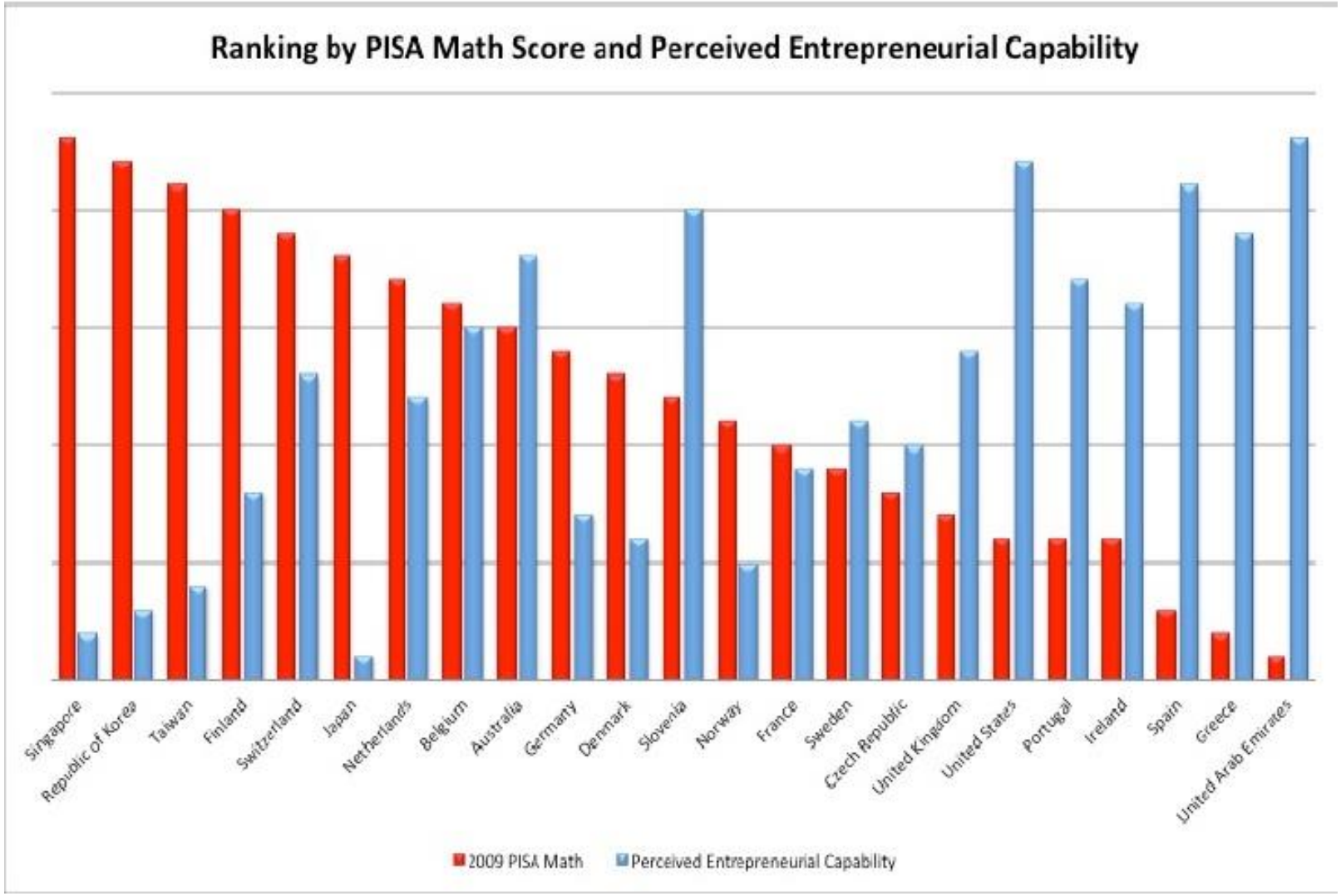
Der bor møringene, gutt.
Dit må du aldri reise!

Torill
@Torill_Talgo

Social and cross-cultural skills



http://www.businessinsider.com/communication-charts-around-the-world-2014-3


Ranking by PISA Math Score and Perceived Entrepreneurial Capability
Singapore
Republic of Korea
Taiwan
Finland
Switzerland
Japan
Netherlands
Belgium
Australia
Germany
Denmark
Slovenia
Norway
France
Sweden
Czech Republic
United Kingdom
United States
Portugal
Ireland
Spain
Greece
United Arab Emirates
2009 PISA Math
Perceived Entrepreneurial Capability

Living in the World

Resiliensfremmende arbeid

Hvordan kan prosessene resiliens og forventning om mestring ses i sammenheng med hverandre, og hvordan kan skolene drive resiliensfremmende arbeid på bakgrunn av kunnskap om disse to prosessene?

Helene Fulland

VG NYHETER

< Nyheter

Debatt: Generasjon pres man reder så ligger man

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- Conversations with Alumni
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- Interactive Timeline

Dr Therese N. Hopfenbeck

therese.hopfenbeck@education.ox.ac.uk

Therese Hopfenbeck is a Lecturer in Educational Assessment at the Oxford University Centre for Educational Assessment. Before coming to OUCEA, Therese held a post-doctoral position at the Oslo University's research group for Measurement and Evaluation of Student Achievement at the Unit for Quantitative Analysis of Education.

Originally a secondary school teacher with many years experience in the classroom, Therese has also worked as school district supervisor and as a consultant for the Norwegian Directorate for Education and Training regarding the development and evaluation of national exams.

Research

Her research interests are focused upon large-scale comparative assessments and how international testing has shaped public policy

Category
Department staff

Position
Lecturer in Educational Assessment

Research groups
OUCEA

01865 274017

Steve Wozniak: “Apple couldn’t emerge in societies like Singapore where ‘bad behavior is not tolerated’ and people are not taught to think for themselves. “

"The next Apple or Google will appear, but not in China unless it abolishes its education."

- Kai-fu Lee, Founding President of Google China

The results of China's long-time emphasis on testing to sort and segregate students has resulted in an abundance of very knowledgeable yet untalented college graduates. According to the McKinsey business studies, a disproportionate number of Chinese college graduates lack critical thinking, problem-solving skills, creativity, and entrepreneurial attitudes.

Email This Post

Green Evaluation: China's Latest Reform to Deemphasize Testing

24 JUNE 2013 43,544 20 COMMENTS

Last week the Chinese Ministry of Education launched another major reform effort to reduce the importance of testing in education. In a document sent to all provincial education authorities on June 19th, the Ministry of Education unveiled guidelines and a new framework for evaluating schools.

- I Europa brukes det 15 ganger mer på helse forskning som på utdanningsforskning

- bruke mer tid og ressurser på undervisning og læring.

- Mer samarbeid

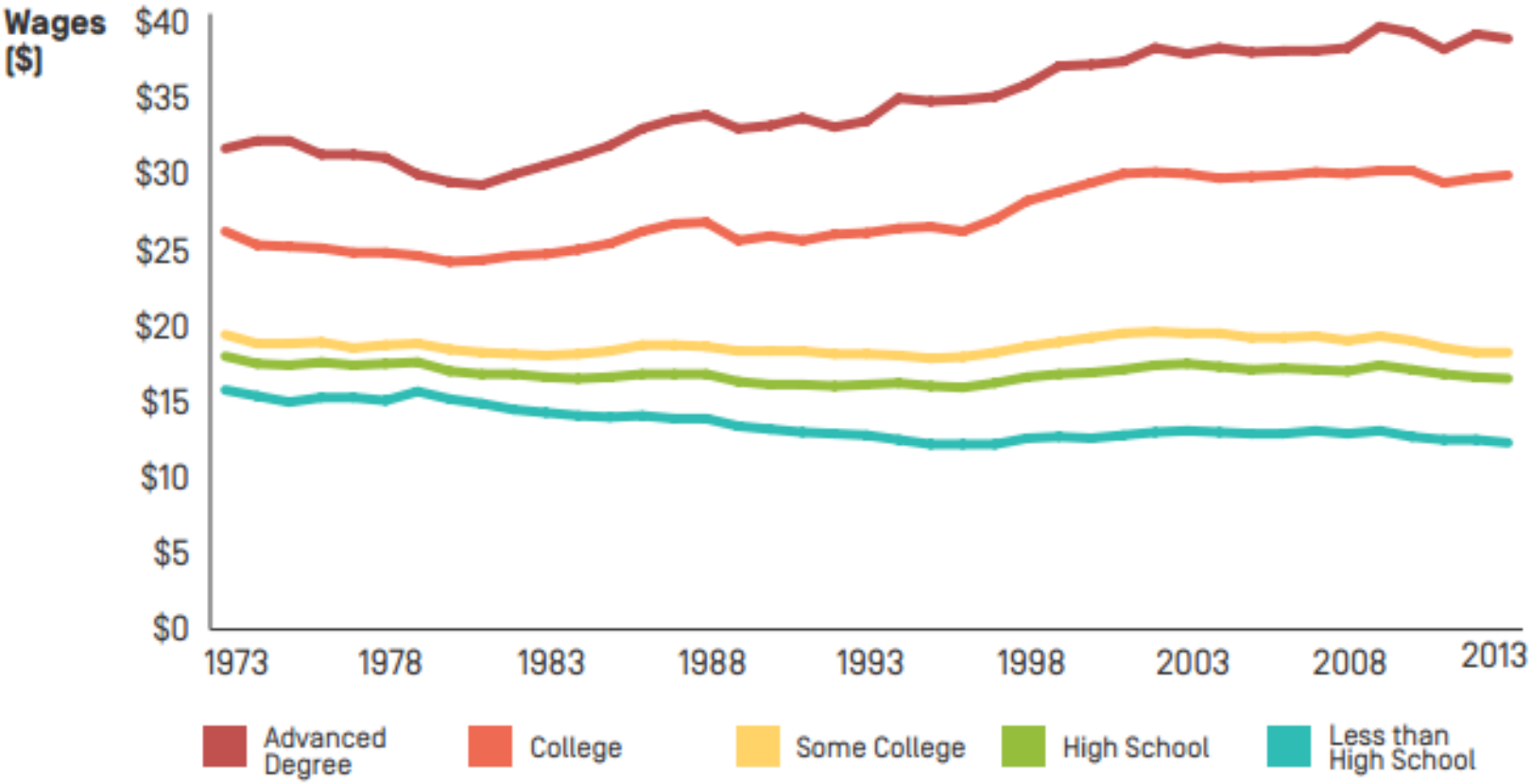
- Læringslab/FoU

- Meritering og kreditering for undervisningskvalitet

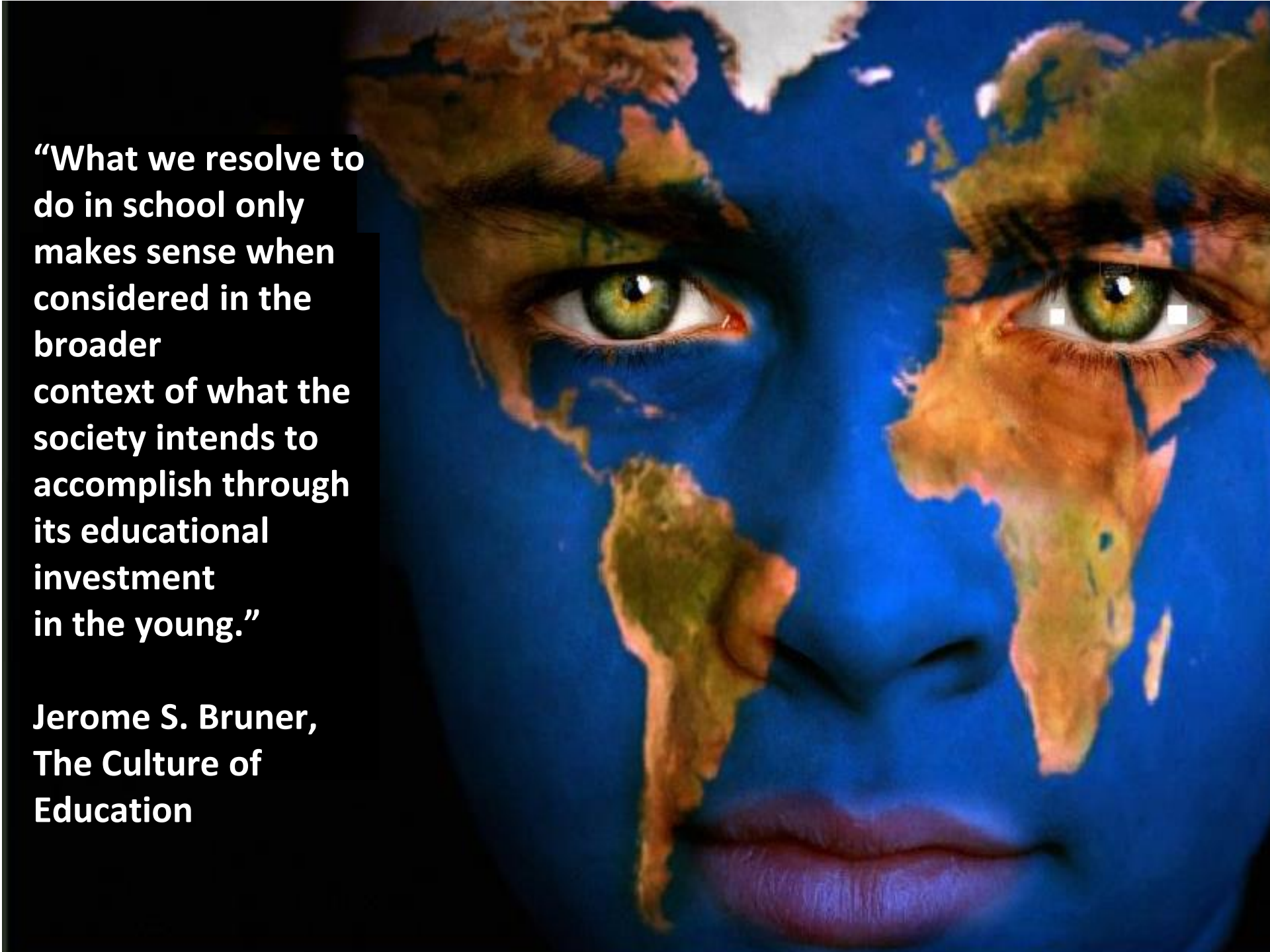
- Samarbeid offentlig og privat sektor

- Del av styringsinformasjonen

Figure 1 | Hourly Wages Of Workers By Educational Attainment (1973-2013)



Note: For more information on sample definition and methodology, see Appendix B of *The State of Working America* [http://stateofworkingamerica.org/files/book/Appendices.pdf]. All amounts are in 2013 Dollars.
Source: EPI analysis of Current Population Survey Outgoing Rotation Group microdata
Updated from: Table 4.14 in The State of Working America, 12th Edition, an Economic Policy Institute book published by Cornell University Press in 2012 [www.stateofworkingamerica.org]



“What we resolve to do in school only makes sense when considered in the broader context of what the society intends to accomplish through its educational investment in the young.”

Jerome S. Bruner, The Culture of Education