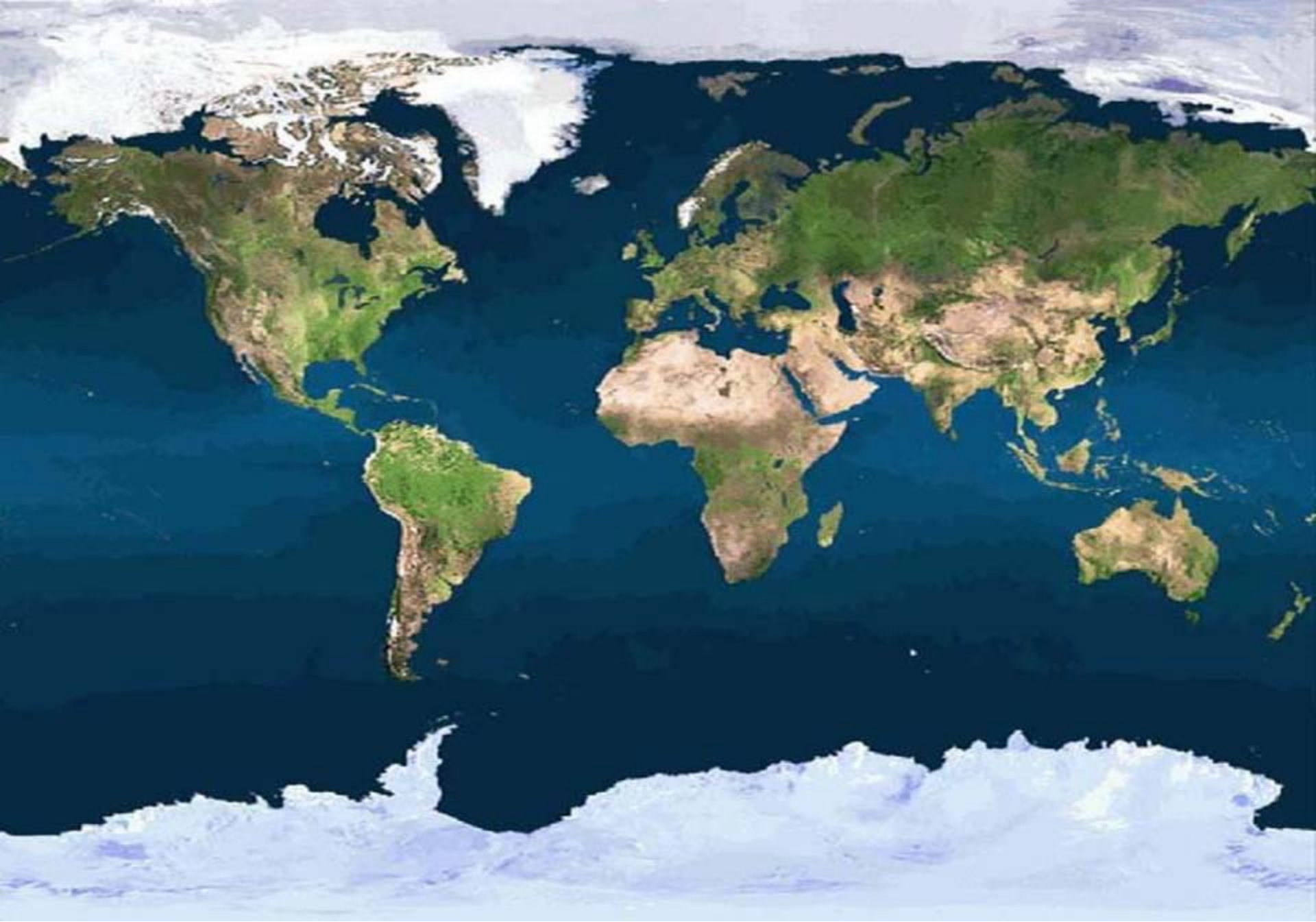
Partnership for 21st Century Skills

21st Century Skills: How can you prepare students for the new Global Economy?

Charles Fadel
Global Education Research Lead

British Council - Going Global
March 15, 2010
London, UK

CISCO



Globalization → Productivity → Education

Globalization is Transforming Learning

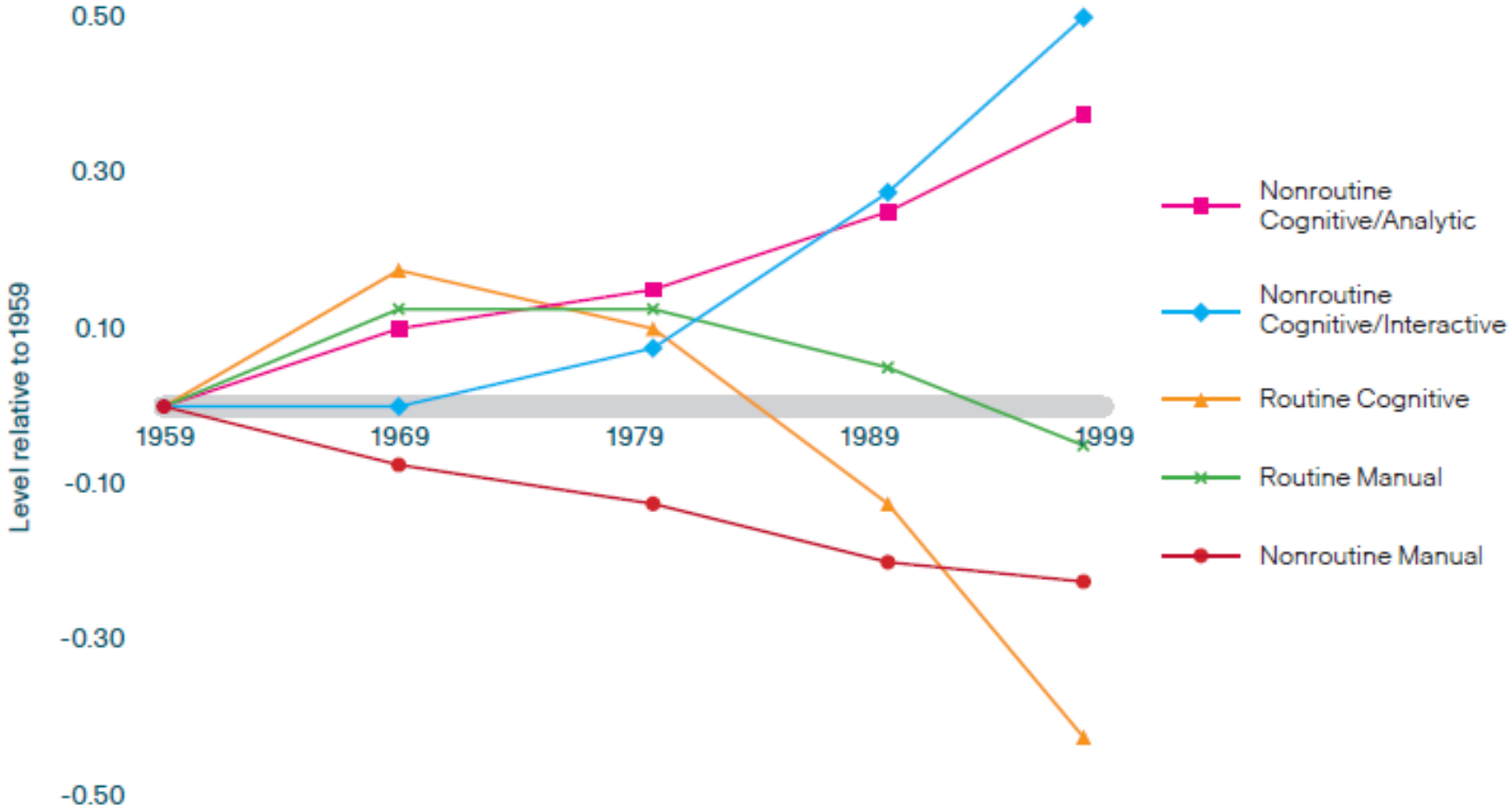
- All countries are in a race to the top of the value chain
- Increased need for cultural understanding
- Increased need for personal identity
- Learning itself (and the education industry) has globalised

Demographics Imply Lifelong Learning

- Aging populations increase dependency ratios
- ‘Hourglass’ populations mean large numbers of students, and very few teachers
- Multi-jobbing and re-skilling become the norm due to faster changes and longer working lives

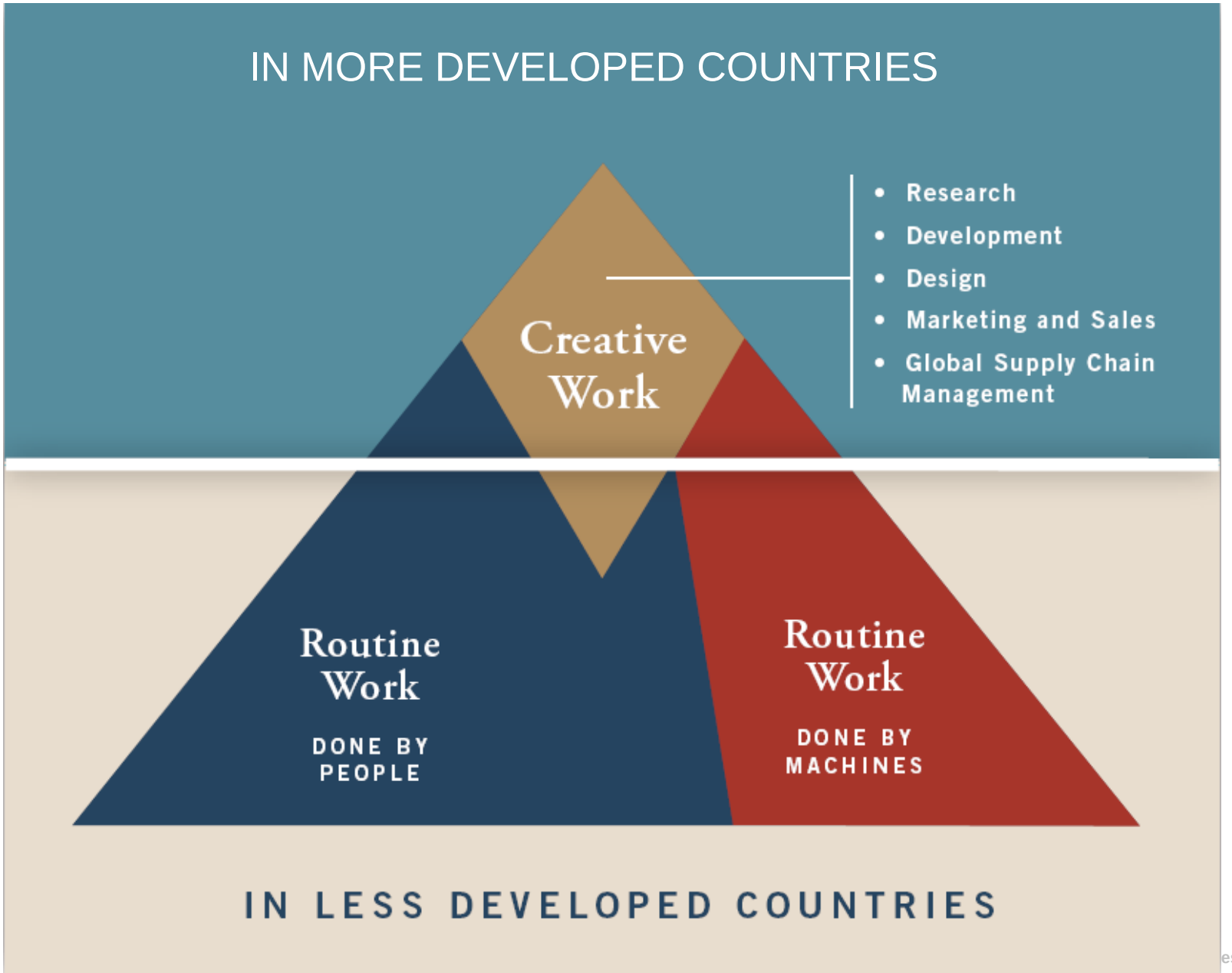
Accelerating Change Demands Different Skills

Figure 1: Economy-Wide Measures of Routine and Nonroutine Task Input, 1959–1998



From: Autor, D., Levy, F. and Murnane, R. (2001) "The Skill Content of Recent Technological Change: An Empirical Exploration." NBER Working Paper 8337. Boston, MA: National Bureau of Economic Research.

Race up the Value Chain



Source: "Tough Choices or Tough Times" 2007, National center on education and the economy

Workforce Requirements Survey

Knowledge	Skills
English Language (spoken)	Critical Thinking/Problem Solving
Reading comprehension (English)	Communications (oral & written)
Writing (English)	Collaboration/Teamwork
Mathematics	Diversity
Science	Information Technology Applications
Government/Economics	Leadership
Humanities/Arts	Lifelong Learning/Self-Direction
Foreign Languages	Professionalism/Work Ethic
History/Geography	Ethics/Social Responsibility

Source: "Are they really ready to work ?" report by the Conference Board, P21 et al

Magnitude of Competition is Changing

China & India
300M skilled workers
World challenge

"When China awakens, the world will tremble"

Napoleon Bonaparte

2025

Japan
25M skilled workers
US, Europe Challenge

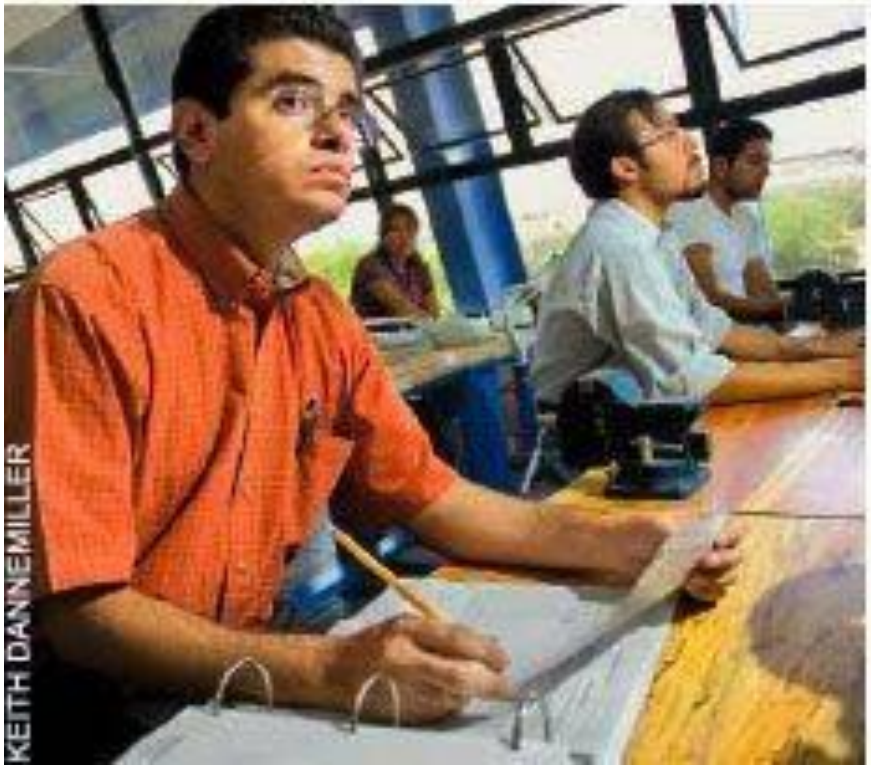
1985

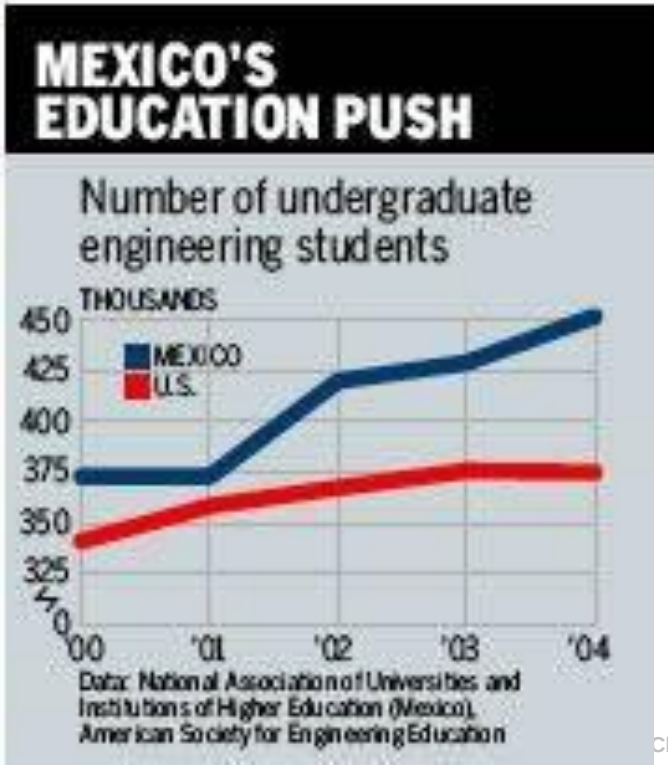
STEM Professions Have a Positive Impact on Innovation Economies

"Our evidence shows that countries with a higher concentration of engineering college majors grow faster, whereas countries with a higher proportion of law concentrators grow slower."

"If an extra 10% of enrollment was engineering, the growth rate would rise 0.5% per year; if an extra 10% enrollment were in law, growth would fall by 0.3% per year".

Source: "Allocation of Talent, Implications for growth" 1990 National Bureau of Economic Research; Murphy, Schleiffer et al





The Popular Press Gets It

"This is a story about… whether an entire generation of kids will fail to make the grade in the global economy because they *can't think their way through abstract problems, work in teams, distinguish good information from bad, or speak a language other than English."*

How to Build a Student for the 21st Century, TIME Magazine, December 18, 2006

The Leadership Gets It

“I'm calling on our nation… to develop standards and assessments that don't simply measure whether students can fill in a bubble on a test, but *whether they possess 21st century skills like problem-solving and critical thinking and entrepreneurship and creativity”*

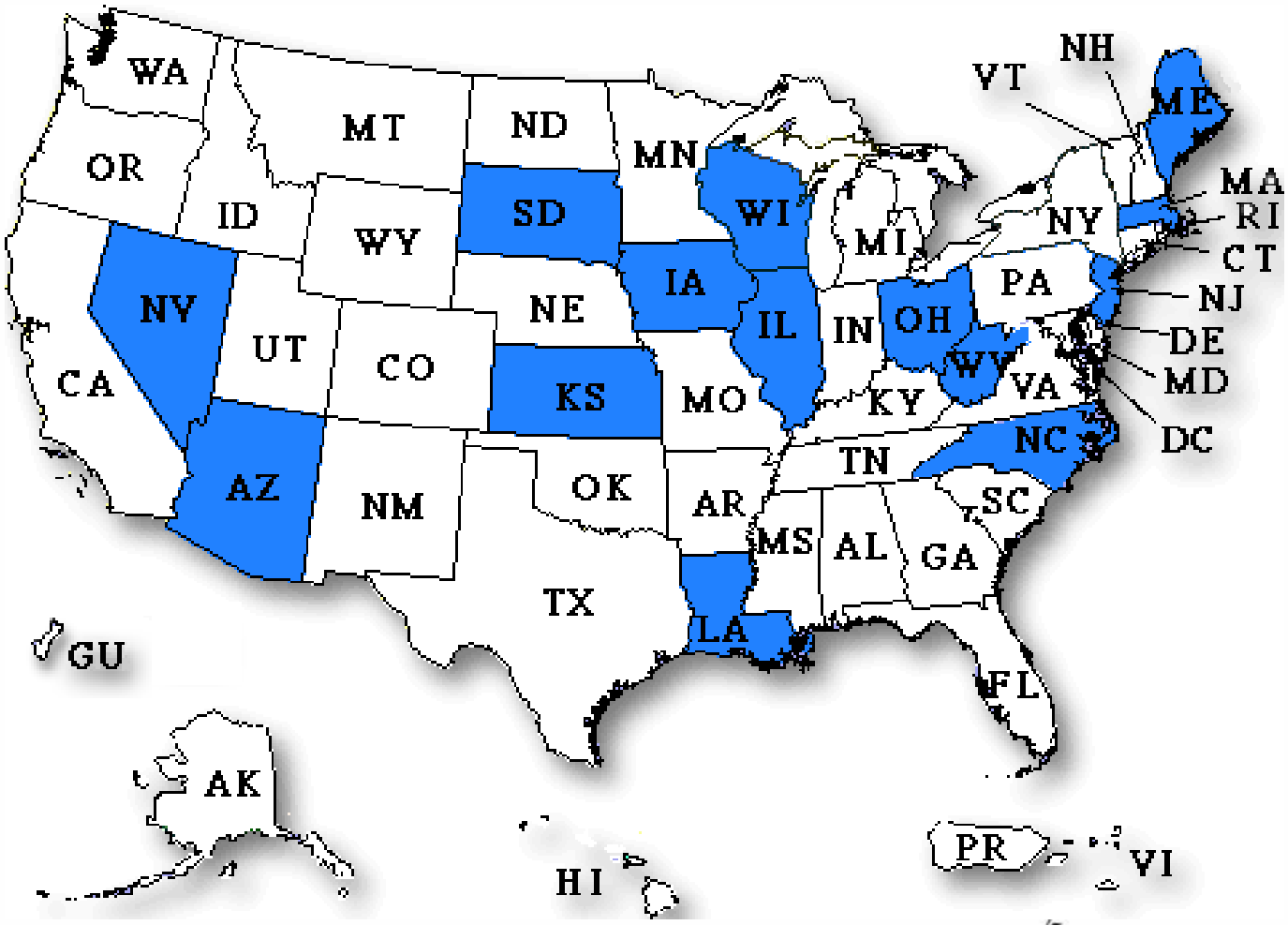
U.S. President Barack Obama, March 2009

P21 Members

Circled: Founding members

Current State Partners

- Arizona
- Illinois
- Iowa
- Kansas
- Louisiana
- Maine
- Massachusetts
- Nevada
- New Jersey
- North Carolina
- Ohio
- South Dakota
- West Virginia
- Wisconsin



Global Interest

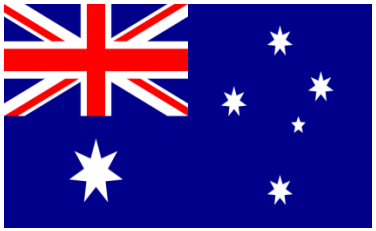
ATC21S
ASSESSMENT & TEACHING OF 21ST CENTURY SKILLS
THE UNIVERSITY OF MELBOURNE
CISCO | INTEL | MICROSOFT

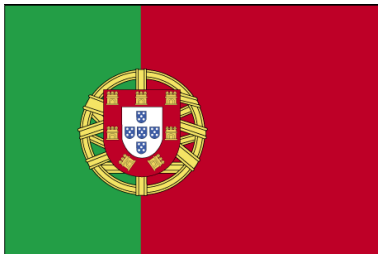
OECD
ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

http://www.atc21s.org/

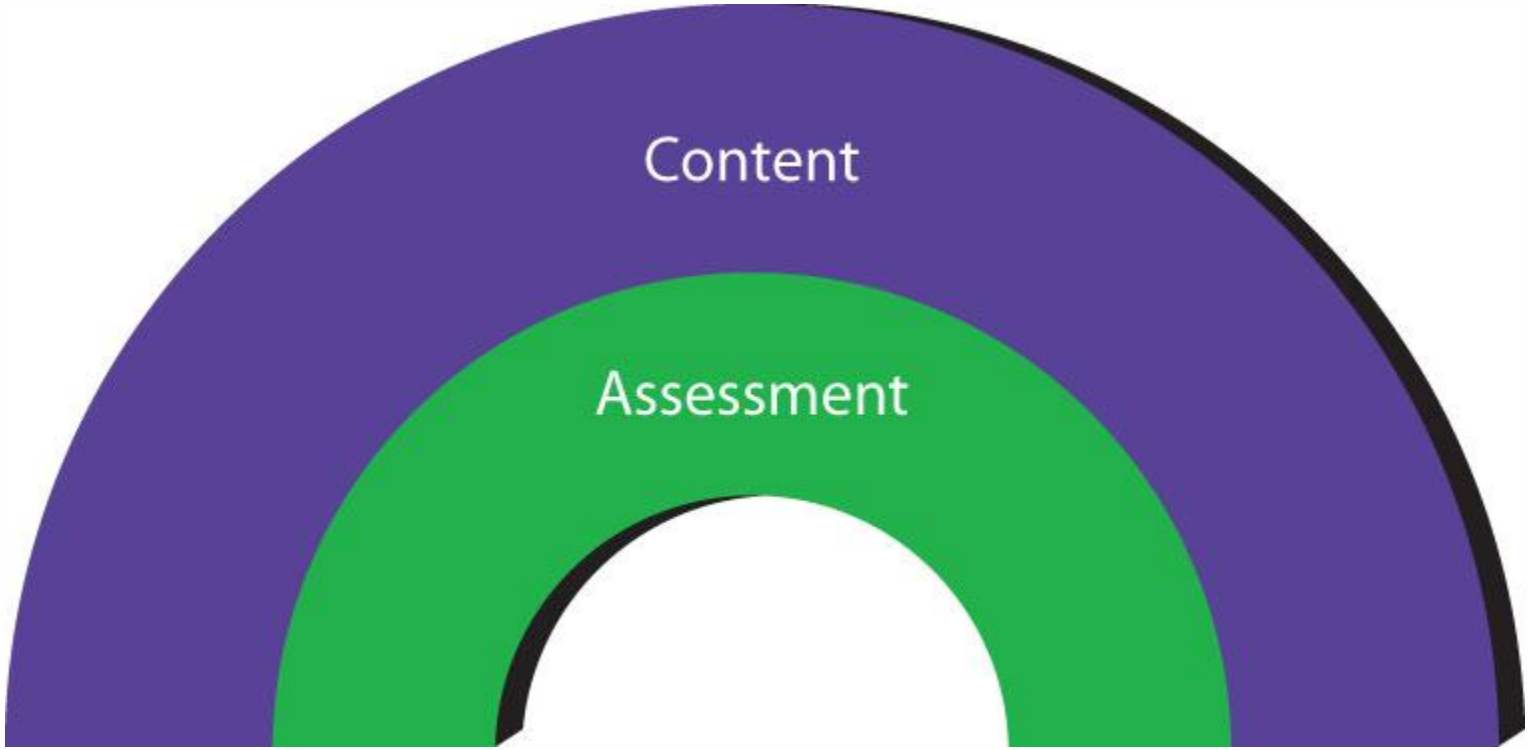
Signatories:

Australia
England
Finland
Portugal
Singapore
USA

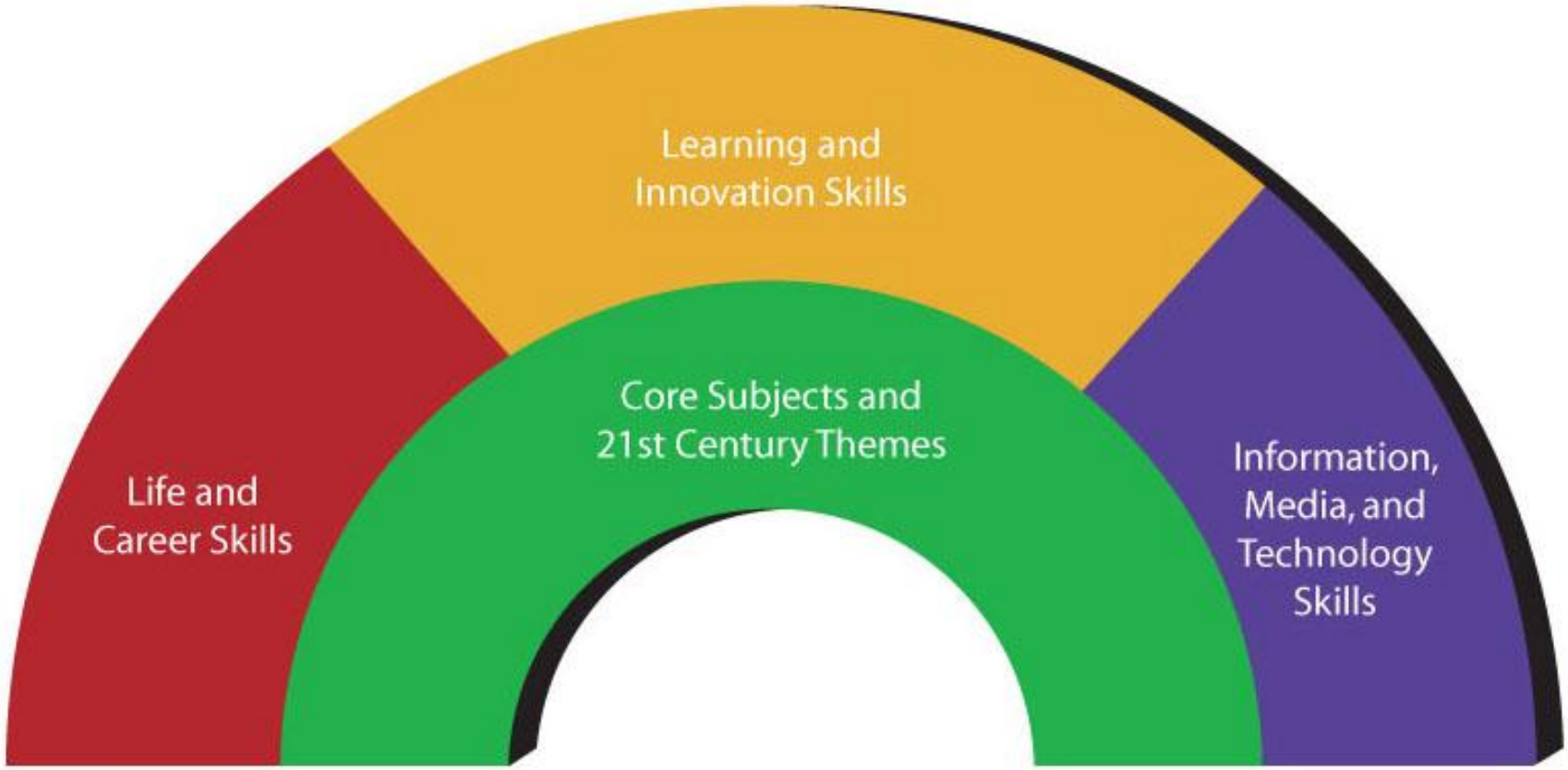




20th Century Skills Framework



21st Century Skills Framework



Partnership for 21st Century Skills

21st Century Skills Framework

Core Subjects

- Native Language/Reading
- World Language(s) incl. English
- Arts
- Geography
- History
- Mathematics
- Science
- Government/Civics

21st Century Themes

- Global Awareness
- Financial, Economic, Business and Entrepreneurial literacy
- Civic Literacy
- Health Literacy
- Environmental Literacy

21st Century Skills Framework

Learning & Innovation Skills

- Critical Thinking & Problem Solving
- Creativity & Innovation
- Communication & Collaboration

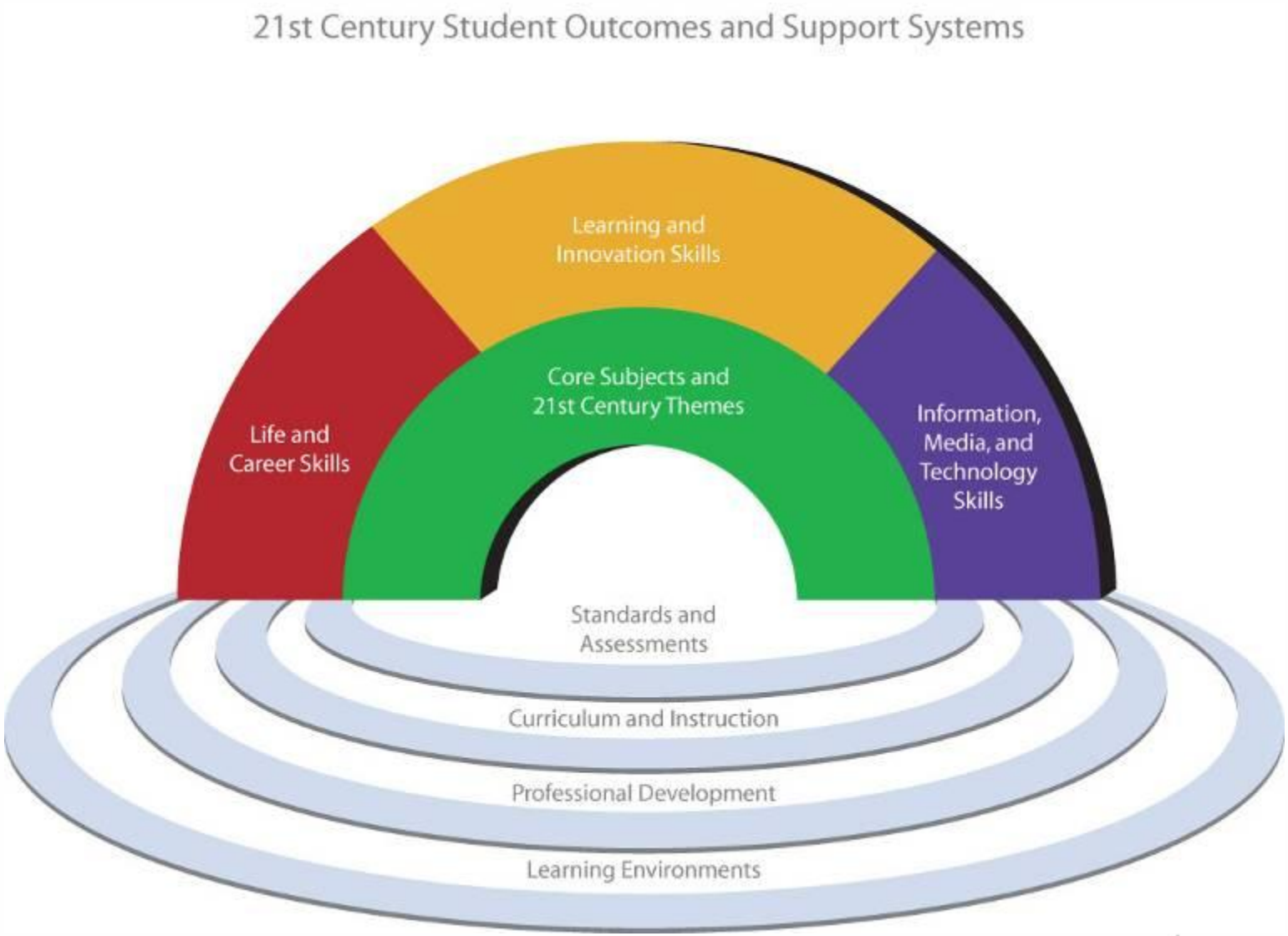
Information, Media & Technology Skills

- Information Literacy
- Media Literacy
- ICT Literacy

Life & Career Skills

- Flexibility & Adaptability
- Initiative & Self-Direction
- Social & Cross-Cultural Skills
- Productivity & Accountability
- Leadership & Responsibility

21st Century Skills Framework



Partnership for 21st Century Skills

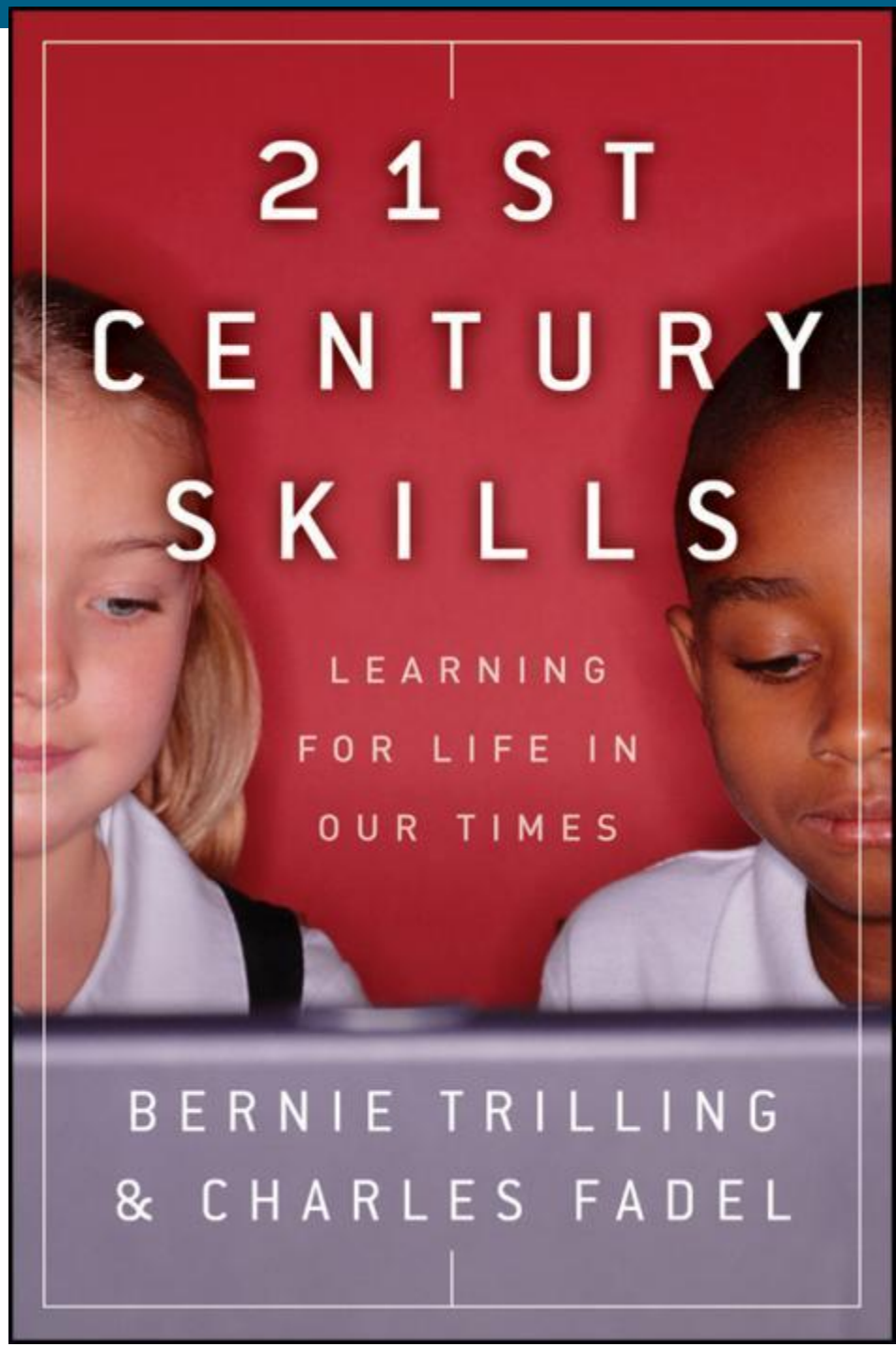
http://www.21stcenturyskillsbook.com

"The authors have done nothing less than provide a bold framework for designing a 21st century approach to education, an approach aimed at preparing all of our children to successfully meet the challenges of this brave, new world."

Paul Reville, Secretary of Education,
Commonwealth of Massachusetts;
former director of the Education Policy and Management Program,
Harvard Graduate School of Education

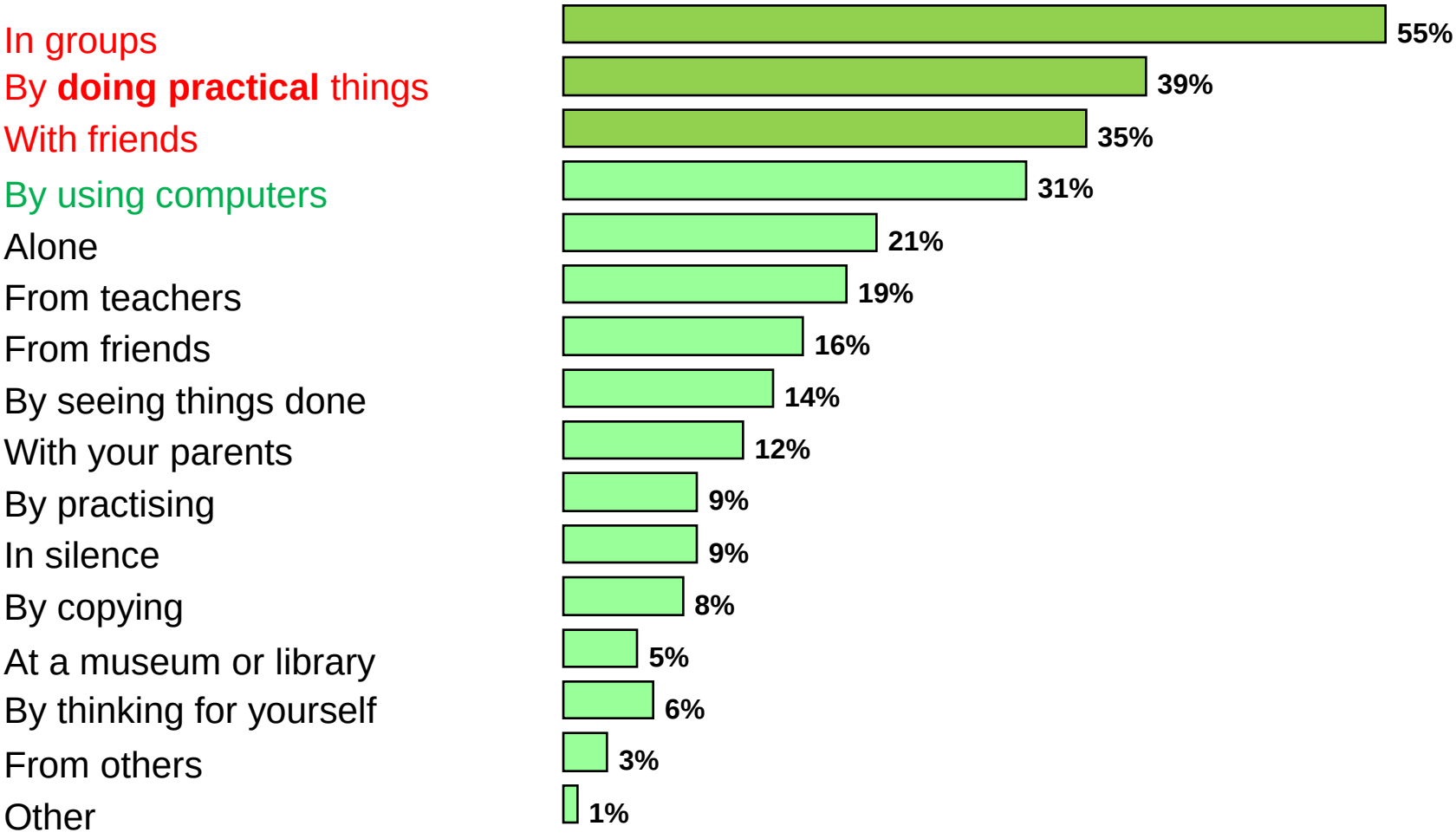
"*21st Century Skills* is full of interesting examples illustrating both what work will look like in the years ahead and how thoughtful educators are preparing children to thrive in tomorrow's workplaces"

Richard J. Murnane,
Thompson Professor of Education and Society,
Harvard Graduate School of Education



Most preferred ways to learn

In which three of the following ways do you prefer to learn?



Base: All pupils (2,417)

Source: Ipsos MORI for BECTA, 2007

Charles Fadel

Education Challenges (1)

WHAT is taught:

- **Skills**, not just Knowledge (critical thinking etc)
- **Relevance** to real-world (for motivation, and employability)
  - Rigor of curriculum (cohesiveness, and applicability)
  - Interdisciplinarity (embedded in curriculum, and collaborative)
  - STEM as careers, *and* as literacy for all
  - Mandatory English in non-english-speaking countries
  - Stressing creativity (and innovation → Entrepreneurship)
  - Credentialing of industry certifications
  - Credentialing of global courseware (including free)
  - Microcredits for fast retraining (even for engineers/scientists)
- Good lifelong learning habits !

And consequently adapting curriculum at Teachers' colleges too

Education Challenges (2)

HOW curriculum is taught:

- Flexibility in time and space
- Reduce overall duration (essential vs superfluous)
- Constructivist (Project-based with designs, inquiries, simulations, portfolios etc) not only Didactic
- Involving real-world experts and tools

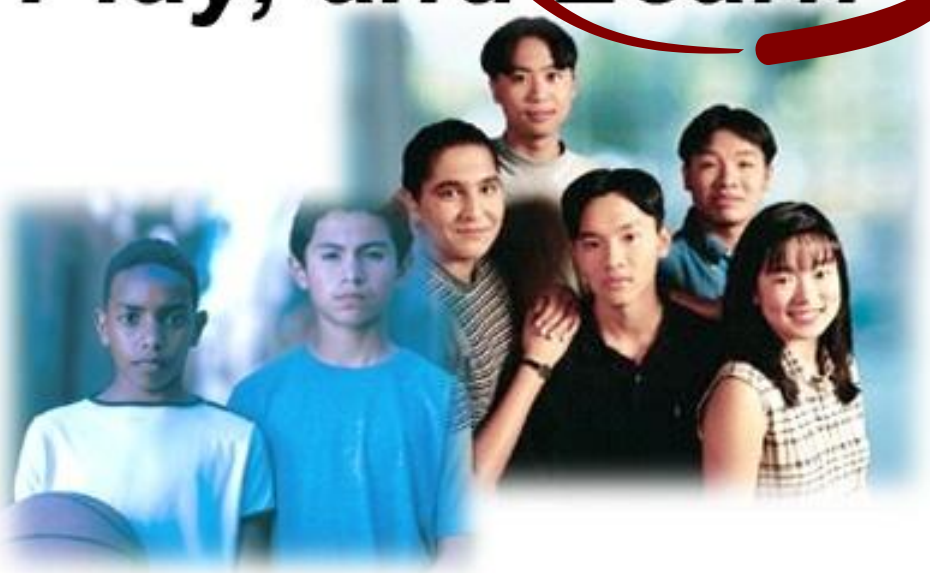
Prove ROI:

- Beyond accreditation and brand - lifetime earnings
- Improving enrollment, attendance, completion
- Career coaching of students

Association of American Colleges and Universities

OECD
ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The Internet Is Changing the Way We Work, Live, Play, and Learn℠



It's not about more of the same

- The great collaborators and orchestrators
  - The more complex the globalised world becomes, the more individuals and companies need various forms of co-ordination and management
- The great synthesisers
  - Conventionally, our approach to problems was breaking them down into manageable bits and pieces, today we create value by synthesising disparate bits together
- The great explainers
  - The more content we can search and access, the more important the filters and explainers become

It's not about more of the same

- The great versatilists
  - Specialists generally have deep skills and narrow scope, giving them expertise that is recognised by peers but not valued outside their domain
  - Generalists have broad scope but shallow skills
  - Versatilists apply depth of skill to a progressively widening scope of situations and experiences, gaining new competencies, building relationships, and assuming new roles.
  - They are capable not only of constantly adapting but also of constantly learning and growing
- The great personalisers
  - A revival of interpersonal skills, skills that have atrhophied to some degree because of the industrial age and the Internet
- The great localisers
  - Localising the global