

# The Educational Challenge

**21<sup>st</sup> Century Knowledge and Skills: The new Curriculum  
and the Future of Assessment  
CERPP 2012 Los Angeles**

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Examinations



## Summary

- There is a consensus about the competencies students need in order to function effectively in higher education and the modern work place
- Most countries recognize that their education system is failing to produce students with these qualities
- Curriculum and assessment practices can be developed to improve the situation.



## The Challenge of 21<sup>st</sup> century education - OECD

*“ A generation ago, teachers could expect that what they taught would last their students a lifetime. Today, because of rapid economic and social change, schools have to prepare students for jobs that have not yet been created, technologies that have not yet been invented and problems that we don’t yet know will arise.”*

Andreas Schleicher, OECD Education Directorate  
The case for 21<sup>st</sup> century learning

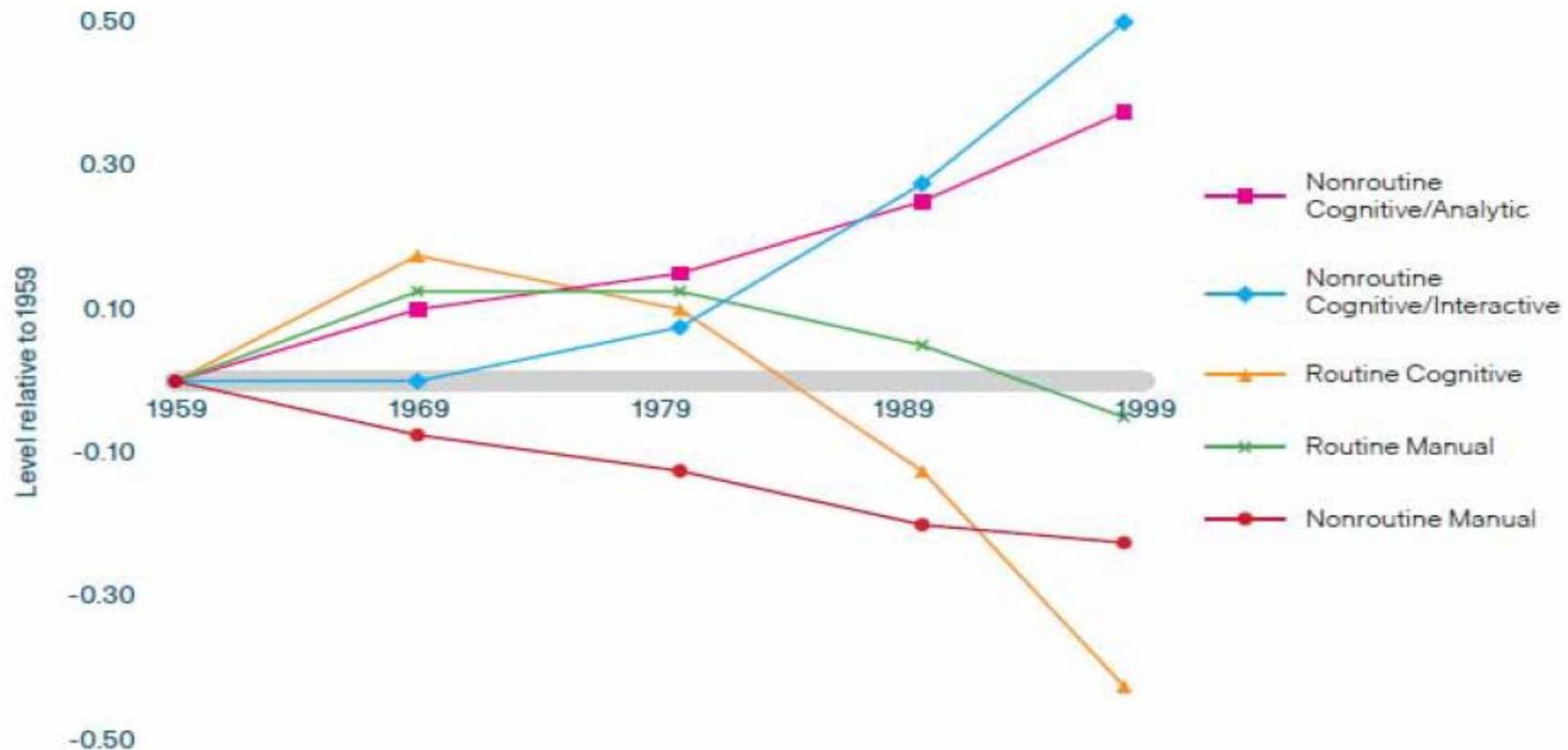


## OECD proposed that students should be introduced to:

- **new ways of thinking:** including creativity, critical thinking, problem-solving and decision-making;
  - **new ways of working:** including new forms of collaboration and communication;
  - **using new tools for working:** including the capacity to harness the potential of new technologies.
- “ *Success will go to those individuals and countries that are swift to adapt, slow to resist and open to change. The task of educators and policymakers is to help countries rise to this challenge.*” [Schleicher op cit]

# 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.



## Generic Competencies in HE

- Competencies refer to specific patterns of behaviour that enable a person to perform a particular task to the required standard
- Study conducted by Cambridge assessment 2011 identified 10 areas applicable to all subjects:
  - Active Enquiry    - Open Thinking Style
  - Motivation        - Self-Discipline
  - Organisation      - Copes with Demands
  - Resilient          - Emotional control
  - Self-reflective    - Organisation Citizenship



## Desirable Learner Outcomes

- Basic skills: Numeracy / literacy / IT/ languages
- In depth subject *understanding*
- Problem solving / critical thinking: the ability to investigate and analyze complex problems in unfamiliar situations
- Information literacy
- Adaptability / flexibility / resilience
- Creativity
- Global / international / intercultural understanding
- Learning to learn for life
- Ability to communicate, argue and debate with clarity
- Ability to work effectively in teams and individually

## Changing the Educational Paradigm [adapted from Hargreaves 2006 Hargreaves

*Helping students to become better learners. Presentation made in Delhi, March 2006]*

19 <sup>th</sup> / 20 <sup>th</sup> Century assumptions	21 <sup>st</sup> Century assumptions
Intelligence is perceived as unitary, fixed and innate	Intelligence is understood as multi faceted, plastic and [to a certain extent] learnable
Learning is the acquisition of subject content. Students are consumers of knowledge	Students as producers, not just consumers of knowledge. Learning focus on application of knowledge
Curriculum focuses on content coverage and behavioural objectives	Curriculum focuses on processes of learning to learn, metacognition and skill development
Information and knowledge focus	Information <i>literacy</i> . Learning to handle information is the focus



<b>19<sup>th</sup> / 20<sup>th</sup> Century assumptions</b>	<b>21<sup>st</sup> Century assumptions</b>
Education is limited to the school and for fixed periods	Education is lifelong and unconstrained in time and place
Teaching and learning roles are sharply defined and segregated. School is a place with clear rigid boundaries. School like a factory.	Roles are blurred and overlapping School as a network and part of a broader web
Schools and teachers are autonomous	Schools and teachers are embedded in complex interconnected relationships
Local, National and International focus	Local, National and <i>global</i> focus
Schools prepare for lifelong employment in one future occupation	Students identities and destinies are fluid and changing

## Curriculum and Assessment Practices

- We need to assess what we value not value what we assess
- Assessment has a backwash effect on curriculum and teacher practice. This must be recognized so that teachers and schools focus on what we value
- Curriculum, with corresponding assessments, must be broad and balanced. Students must be assessed on the *processes* as well as the *products* of learning and be able to demonstrate understanding and performance holistically in authentic contexts as well as in examinations and tests.
- The central role of the teacher as a creative professional must be recognized and encouraged.



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ASSESSMENT & TEACHING OF 21ST CENTURY SKILLS

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