

The 21st Century Skills: Learning and Teaching

- What, how and to what extent, can universities contribute to the kind of skills that are needed for the 21st Century?

- The World Economic Forum (WeForum), in Davos, Switzerland → measuring international competitiveness of countries (137)

- 1.Switzerland
- 2.United States
- 3.Singapore
- 4. Netherlands
- 5. Germany
- 6. Hong Kong SAR
- 7. Sweden
- 8. United Kingdom
- 9. Japan
- 10.Finland

- 11 Norway
- 12 Denmark
- 13 New Zealand
- 14 Canada
- 15 Taiwan, China
- 16 Israel
- 17 United Arab Emirates
- 18 Austria
- 19 Luxembourg
- 20. Belgium

- 21 Australia
- 22 France
- 23 Malaysia
- 24 Ireland
- 25 Qatar
- 5.1 Korea, Rep.
- 27 China
- 28 Iceland
- 29 Estonia
- 30 Saudi Arabia

- 31 Czech Republic
- 32 Thailand
- 33 Chile
- 34 Spain
- 35 Azerbaijan
- 36 Indonesia
- 37 Malta
- 38 Russian Federation
- 39 Poland
- 40 India



Institutions

Concepts related to protection of property rights, efficiency and transparency of public administration, independence of the judiciary, physical security, business ethics and corporate governance

- Public institutions
- Private institutions



Infrastructure

Quality and availability of transport, electricity and communication infrastructures

- Transport infrastructure
- Electricity & telephony infrastructure



Macroeconomic environment

Fiscal and monetary indicators, savings rate and sovereign debt rating



Health & primary education

State of public health, quality and quantity of basic education

- Health
- Primary education



Higher education & training

Quality and quantity of higher education, and quality and availability of on-the-job training

- Quantity of education
- Quality of education
- On-the-job training



Goods market efficiency

Factors that drive the intensity of domestic and foreign competition, and demand conditions

- Competition
- Quality of demand conditions



Innovation

Capacity for, and commitment to technological innovation



Business sophistication

Efficiency and sophistication of business processes in the country



Market size

Size of the domestic and export markets

- Domestic market size
- Foreign market size



Technological readiness

Adoption of the technologies by



Financial market development

Efficiency and ability to attract investments from



Labour market efficiency

Labour market efficiency and flexibility



- World Economic Forum, New Vision for Education (2015)
- Compare this to OECD's PISA

Exhibit 1: Students require 16 skills for the 21st century

21st-Century Skills

Foundational Literacies

How students apply core skills to everyday tasks



1. Literacy



2. Numeracy



3. Scientific literacy



4. ICT literacy



5. Financial literacy



6. Cultural and civic literacy

Competencies

How students approach complex challenges



7. Critical thinking/
problem-solving



8. Creativity



9. Communication



10. Collaboration

Character Qualities

How students approach their changing environment



11. Curiosity



12. Initiative



13. Persistence/
grit



14. Adaptability



15. Leadership



16. Social and cultural awareness

Lifelong Learning



- Learning has two parts:
 1. Acquiring specific/disciplinary or vocational/professional skills
 2. Acquiring generic skills → Reading, Writing, Numeracy, IT, Communication, Critical thinking, Analytical Thinking, Understanding Information, Teamwork, Live with others, Care for Society, etc.

How do we teach all these skills?

- Teaching by not teaching (traditionally)
- Rather, it is about creating different learning environments, in which students can then learn themselves
- In other words, teach students to express themselves
- Student-centred learning (example: *children learning in Australia*)
 - *Students search and re-search for themselves →trigger ing their curiosity*

What do teachers need to do?

- Open-minded → being open to all kinds of possibilities, in terms of knowledge
- Applications of what students learn to the real-world situation is very important
- Being knowledgeable in your area of teaching
- Continuing professional development → a full-time teacher.

Student Learning Outcomes (SLOs)

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- <https://teachingcommons.stanford.edu/resources/teaching/evaluating-students/assessing-student-learning>