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
- 13New 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



Financial market development



Labour market efficiency

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

21st-Century Skills

Foundational Literacies

How students apply core skills to everyday tasks



1. Literacy



2. Numeracy



 Scientific literacy



4. ICT literacy



Financial literacy



Cultural and civic literacy

Competencies

How students approach complex challenges



Critical thinking/ problem-solving



8. Creativity



Communication



10. Collaboration

Character Qualities

How students approach their changing environment



11. Curiosity



12. Initiative



13. Persistence/ grit



14. Adaptability



15. Leadership



 Social and cultural awareness

Lifelong Learning

Social and cultural awareness

- Foster greater respect and tolerance for others
- Encourage empathy
- Foster cultural selfawareness

Critical thinking/ problem-solving

· Give constructive feedback



Competencies

Creativity

- Offer opportunities to build and innovate
- Provide autonomy to make choices

Leadership

Adaptability

and structure

emotions

· Foster the ability to process

Practise both flexibility

- Foster the ability to negotiate
- Encourage empathy



How to teach all skills

- · Encourage play-based learning
- . Break down learning into smaller, coordinated pieces
- Create a safe environment for learning
- Develop a growth mindset
- Foster nurturing relationships
- Allow time to focus
- Foster reflective reasoning and analysis
- · Offer appropriate praise
- Guide a child's discovery of topics
- Help children take advantage of their personality and strengths
- Provide appropriate challenges
- Offer engaged caregiving
- Provide clear learning objectives targeting explicit skills
- · Use a hands-on approach



Create a language-rich environment



Collaboration

- Foster greater respect and tolerance for others
- Provide opportunity for group work



Persistence/grit

 Build in opportunities to learn from failure



Initiative

- Provide long-term, engaging projects
- Build confidence in the ability to succeed
- Provide autonomy to make choices



Curiosity

- Encourage questions/
- guessing
- Provide autonomy to make choices
- Instil sufficient knowledge to ask questions and innovate
- Evoke contradiction

Character qualities

- 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

Student Learning Outcomes (SLOs)

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 https://teachingcommons.stanford.edu/resou rces/teaching/evaluating-students/assessingstudent-learning