Co-evolution of human capabilities and intelligent technologies

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In my talk

What kind of skills and competences are needed for the future?

How human sciences can shape digitalization?

New culture of Education?
Education is a fundamental factor for outcomes on both societal and individual level. (United Nations Sustainable Development Goals, SDG 2030).

Understanding how people learn – and helping people to be better learners makes their futures.
How to educate and train in an uncertain and complex world for a future we can’t predict?

Covid19 is not only health crisis, but global work and educational crisis, *deepening the continuous learning needs* (OECD, 2020).
Digitalization, automatization and artificial intelligence will shape the workplaces
Forms of learning and education will change – skills and knowledge learned at school need to change

interdisciplinary intelligence, "hot" cognition, meta-knowing, ongoing learning
Socioemotional interactions

Sensitive communication

Emotions

Motivation

Metacognition

Smart thinking and creativity

Adaptive support

Patterns and models

Efficiency in processing

Routine tasks
What is critical for learning success in 21st century?

(a) ability to adapt to new situations and challenges and engage in complex problem solving
(b) social skills necessary for communicating and collaborating productively and proficiently,
(c) socio-emotional skills and empathy necessary for tackling challenging problems, and
(d) ability to take initiative set goals and monitor self and others.

A new set of uniquely human skills and competencies that machines cannot match or replicate will be necessary.
Collaborative learning

Collaborative and socioemotional interactions, transactions and knowledge building processes have **temporal and multidimensional** nature which in the optimal cases are successfully **shared** in between the collaborating partners.

(Kirschner, Sweller, Kirschner & Zambrano, 2018)
Learners can monitor and regulate their learning
“experimenting with your learning”

M e t a c o g n i t i o n
scanning internal and external factors - goals and plans
- activating the plans - re-examine to adapt
Achieving success in CL tasks depends upon:

(a) co-constructing shared task representations, shared goals, and shared strategies

(b) regulating learning through shared metacognitive monitoring and control of cognition, motivation, emotion, and behavior

Socially shared regulation in learning

Regulating Oneself

Supporting each other’s regulation

Self-regulation
Co-regulation
Socially shared regulation

Regulating Together

How human scientists can participate co-evolution of human capabilities and intelligent technologies.

How humans react to and use new technologies?
New culture of education

1. Ambitious learning practices
2. Collaborative learning
3. Socially shared regulation in learning
4. Advanced learning technologies
5. AI & adaptive learning support
“Thinking Tomorrow’s Education and helping tomorrow’s learners”

Algorithms don’t regulate people – we have to help people to regulate themselves
What if the digital future was not driven by digital technologies but by humans?
Thank you!

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