



A. Herausforderungen des 21. Jahrhunderts

Modul: Gesellschaftliches Orientierungswissen

Understand how the Trainer can help Learners to integrate in the environment/surrounding?

Basic idea and aim of this unit

- The teachers deal with the topic of digital and social transformation in the 21st century.
- They reflect the challenges that this entails for society and people.
- The term "Future Skills - Skills for the 21st Century" is discussed.
- The question of what this means for learning and teaching is being investigated.
- The challenges for numeracy are discussed.

Technical drenched world

Industrial revolutions - Digital transformation

18./19 century

Water and steam power to mechanize production

19/20 century

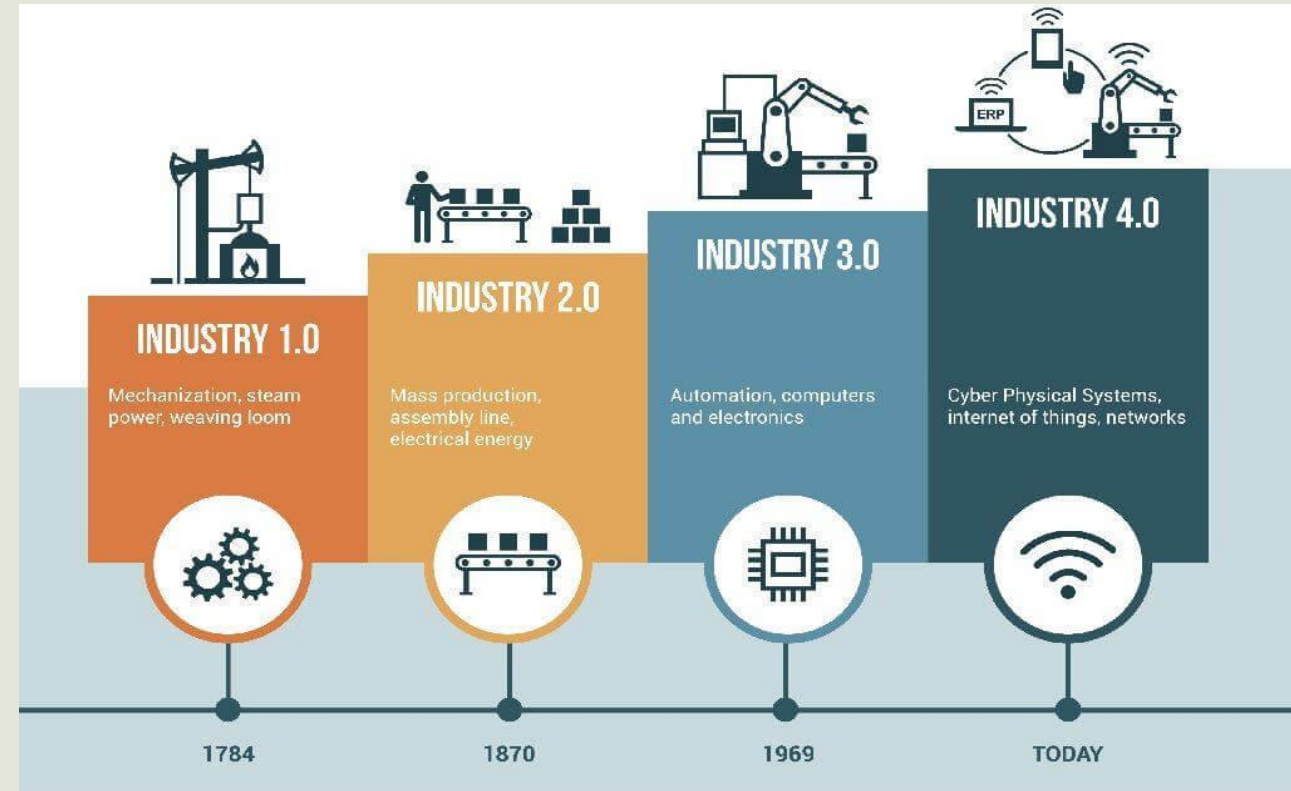
Use of electrical energy to create mass production

20/21 century

Use of electronics and information technology to automate production

Today

Fusion of technologies; Blur the boundaries between the physical, digital and biological spheres



4. Industrial Revolution and Global Social Transformation



„We stand on the brink of a technological revolution that will fundamentally alter the way we live, work, and relate to one another...“ (Klaus Schwab, 2015; *Founder and Executive Chairman of the World Economic Forum*)

- the extent to which the impact on the systems,
- in the speed of changes and breakthroughs (exponential instead of linear),
- in the breadth and depth of change (transformation of entire production, management and social and organizational systems - governance systems)

"In its most pessimistic, dehumanized form, the Fourth Industrial Revolution may indeed have the potential to “robotize” humanity and thus to deprive us of our heart and soul. But as a complement to the best parts of human nature—creativity, empathy, stewardship—it can also lift humanity into a new collective and moral consciousness based on a shared sense of destiny. It is incumbent on us all to make sure the latter prevails.” (Klaus Schwab, 2015)

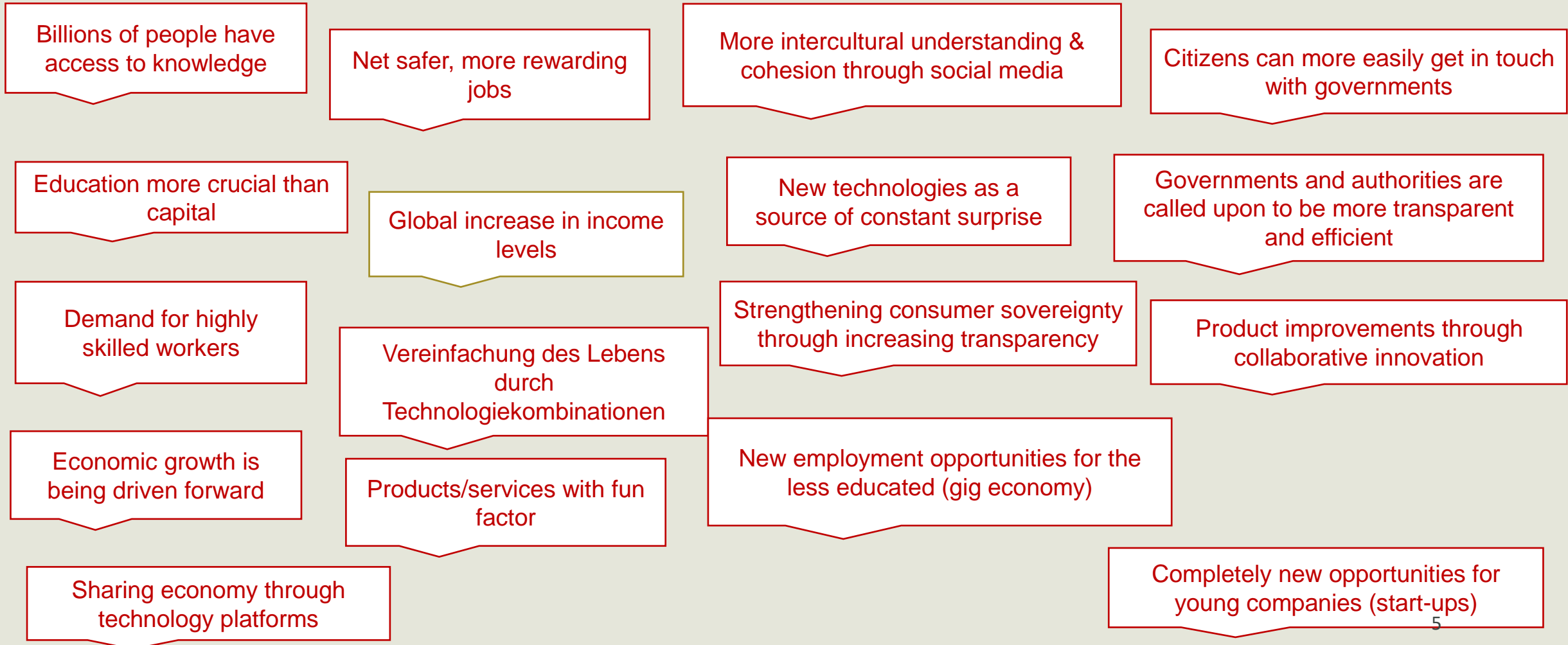


**Video: The fourth industriell revolution
(World economic forum)**

<https://www.youtube.com/watch?v=o0iplV7ZJ74>

4. Industrial revolution and global social transformation

Scenario 1 (optimistic)



revolution and global social transformation 2 (pessimistic)

Little chance for low-skilled

Disaffected workers

Lawmakers and authorities lag behind developments

Robots replace human labour

Undermining the social center

Democratic institutions are increasingly being challenged

Cybercrime is on the rise dramatically

Returns on capital rise, labour returns fall

Social inequalities are on the rise

Artificial intelligence is ubiquitous

Human skills such as compassion are dwindling

Labour markets are collapsing

Democratic malaise and decay

New vulnerability on the web leads to new fears

the vitreous human

Spreading extreme ideas and ideologies on social media

Governments can more easily monitor citizens

Fantasies of omnipotence and the belief in one's own invulnerability

Diverse upheavals as a new reality of life?

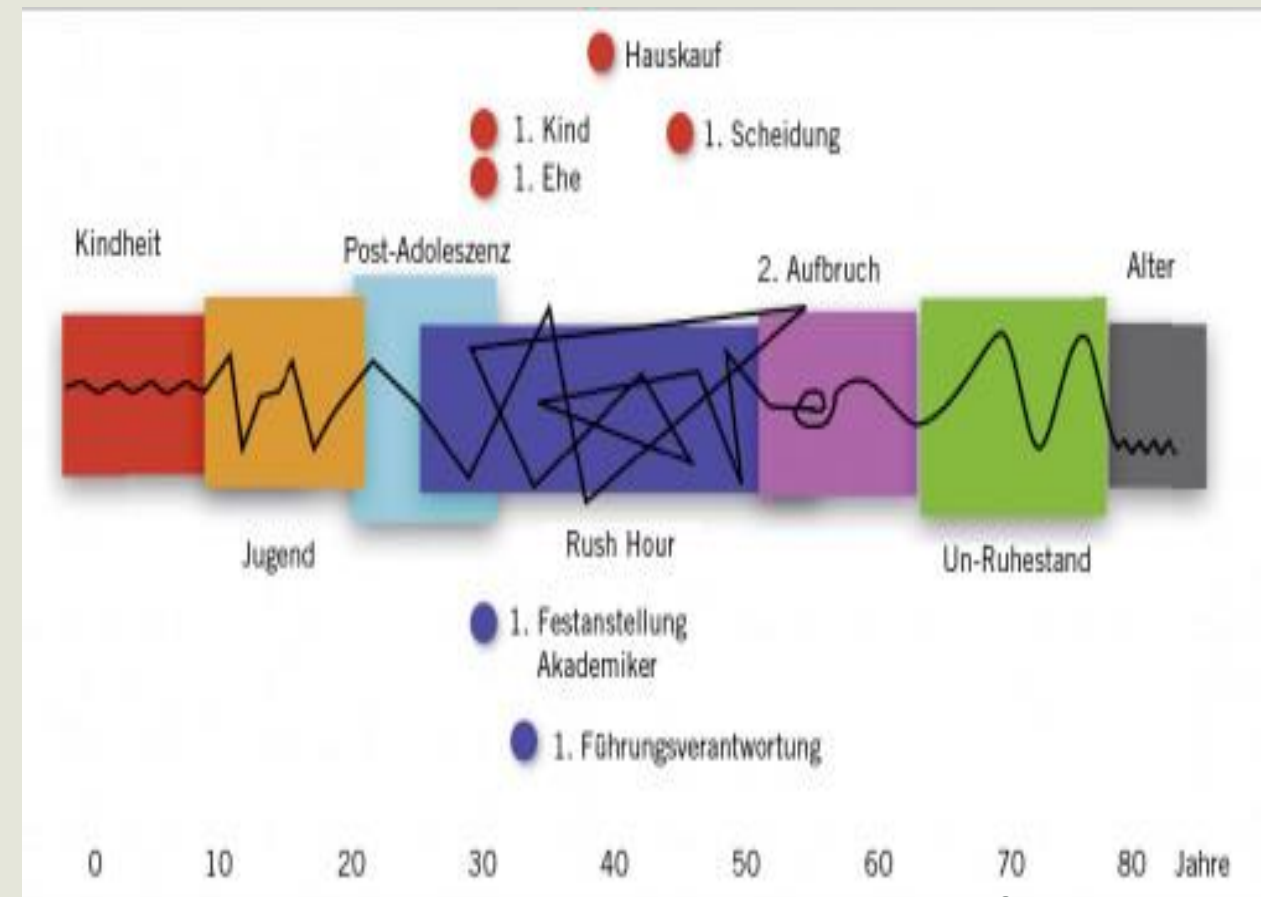
- Massive change in the world of work
- Increasing digital connectivity worldwide
- Further increasing social trend towards individualization
- More frequent changes of profession and residence
- More diverse family forms
- Lifelong training and qualifications
- Decrease in the orientation towards traditions, role models or conventional age attributions
- Expansion of the young adulthood, the “emerging adulthood”, into the third decade of life
- Increasing life expectancy, a new age culture and problems with care

Individuum Von der Biografie zur Multigrafie

Biografie des Industriezeitalters



Multigrafie des 21. Jahrhunderts



PD Activity 1

What do you think? What is your scenario?

- Form groups of 3 persons
- Share your thoughts? What other challenges are people facing today?
- In which areas of life are already emerging radical changes – and which ones? (Family, Housing, Health, Work,)
- Which areas of life will be subject to change in the future?
- What skills do people need to master the present?
- What skills will play a role in the future? What role could numeracy play?
- Are you designing a scenario? (optimistic - pessimistic - neutral)
- Prepare a presentation for the plenary (contradictions are allowed)



Futurist **Gerd Leonhard**, TFA Studios
Digital transformation: are you ready for exponential change?

<https://www.youtube.com/watch?v=ystdF6jN7hc>

Future Skills - Skills for the 21st Century

We must not rely on the educational content of the past being a guarantee for successfully mastering the future.

(OÖ Zukunftsakademie, Agenda 21 _ Netzwerk OÖ)

Future-oriented competence profiles

- Knowledge and expertise ("literacy skills")
- personal and social life skills ("Life Skills")
- methodical and digital skills

Future Skills - Skills of the 21Th Century

What does "21st century skills" mean?

a wide range of knowledge, skills, work habits and personality traits that many believe are vital to success in today's world.

What skills are they and why are they important?

Communication, collaboration, critical thinking and creativity – skills that all learners need to succeed in school, work and life. The 21st century is today.

What are the benefits of 21st century skills?

Critical thinking and problem solving, collaboration, agility and adaptability, initiative and entrepreneurship, effective communication, access to and analysis of information.

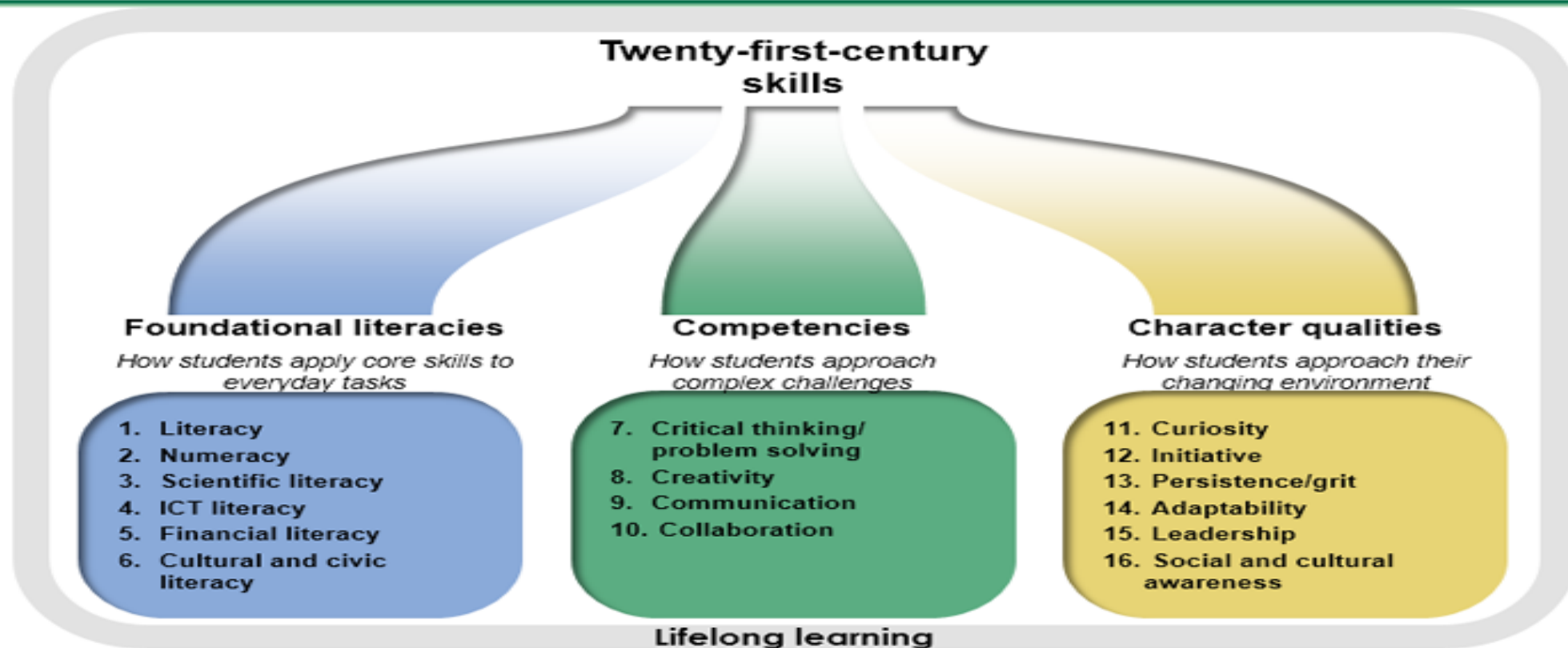
What are the qualities of a 21st century learner?

Creativity and Innovation, Collaboration and Communication, Critical Thinking & Problem Solving, Global Citizenship, Technology Competence, Lifelong Learning

Future Skills - Skills of the 21Th Century

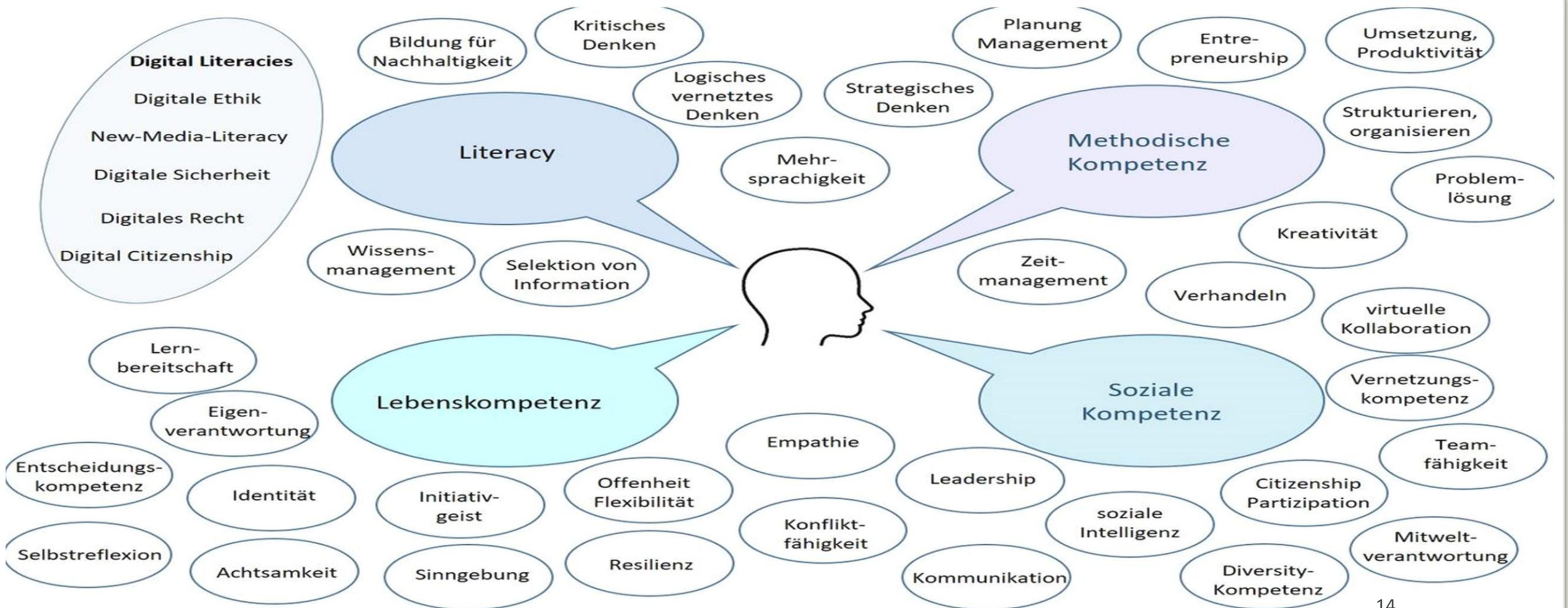
World Economic Forum in Collaboration with BCG

Students Require 16 Skills to Compete in the Twenty-First Century



Future Skills - Skills for the 21st Century

(Grafik: OÖ. Zukunftsakademie; Grafik Kopf: Lidia Koval)



PD Activity 2

What challenges does Numeracy face? What do you think?

- Form groups of three
- Do you exchange your thoughts?
- What are the challenges for everyday math in the 21st century?
- How is the lesson changing?
- What does this mean for the learners?
- What does this mean for the teachers?
- How is the teaching role changing?
- Prepare a short presentation for a plenary discussion.

Texts

Dr. Deborah Schnabel: KOMPETENZEN FÜR DIE ARBEITSWELT VON HEUTE UND MORGEN: 21ST CENTURY SKILLS AND BEYOND; (2017)

<https://hochschulforumdigitalisierung.de/de/blog/kompetenzen-21st-century-skills>

Bellanca, J. & Brandt, R. (2010) (Eds.). 21st Century Skills: Rethinking How Students Learn. Bloomington, IN: Solution Tree.

Frey, C. B., Osborne, M. A. (2013). The future of employment. How susceptible are jobs to computerisation? Oxford, UK: Oxford Martin School

National Numeracy: The Essentials of Numeracy: a new approach to making the UK numerate (2019)

https://www.nationalnumeracy.org.uk/sites/default/files/nn124_essentials_numeracyreport_for_web.pdf

Trilling, B. & Faden, C. (2009). 21st Century Skills. Learning for Life in our Times. San Francisco, CA: Wiley.

Schwab, K.: The Fourth Industrial Revolution: what it means, how to respond. Foreign affairs (2015)

<https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>