A person's hands are shown holding a telescope, looking towards a city skyline at sunset. The sun is low on the horizon, casting a warm glow over the scene. The city buildings are silhouetted against the bright sky.

*“The crisis of our time isn’t just a crisis of a single leader, organization, country, or conflict. The crisis of our time reveals the dying of an old social structure and way of thinking, an old way of institutionalizing and enacting collective social forms.”*

*(C. Otto Scharmer, Theory U: Learning from the Future as it emerges)*

# Future Skills

**Ulf-Daniel Ehlers**

EURASHE Masterclass

May 2020

# Professor Dr. Ulf-Daniel Ehlers



- Professor for Educational Management and Lifelong Learning, **Duale Hochschule Baden-Wurtemberg**
- 6 years Vicepresident Academic Affairs DHBW
- Vicepresident European Association for Institutions of Higher Education
- Member of the Executive Council European Distance and E-Learning Network
- Chair Bologna Advisory Group for Teaching & Learning
- Advisor to the University President for Digital Transformation of Teaching & Learning
- [www.ulf-ehlers.net](http://www.ulf-ehlers.net)

# AGENDA

1

## 1. Future Skills in a Nutshell

*A fast glimpse into Future Skills (to ease the desire to know what is behind them...)*

10'

2

## 2. The Context

*Setting the scene: Why do we talk about Future Skills? What makes them relevant?*

15'

3

## 3. Future Skills in Detail

*What are the Future Skills?*

20'

4

## 4. Structures and Theory

*Can we identify a theory of future Skills? What are the structures behind them?*

15'

5

## 5. Future Skills in Higher Education

*Is Higher Education fit for Future Skills?*

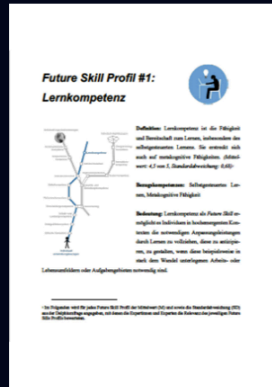
10'



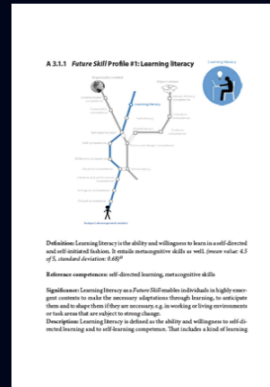
First steps together...

**Who is here?**  
(Polling)

# 1 - Future Skills in a Nutshell



[Download DE]



[Download EN]



## Explore the Future Skills Universe

### Future Skills

#### Explore Future Skills

The NextSkills Studies suggest a new framework for Future Skills which consists of 17 clearly defined Future Skills Profiles. In addition, the Future Skills Triple

### FutureSkills Universities

#### Explore Future Universities

The NextSkills Studies call for rethinking higher education and propose clear-cut drivers for the development of the University of

[www.nextskills.org](http://www.nextskills.org)

# Future Skills



[https://www.youtube.com/watch?time\\_continue=9&v=eYaH5J1lc34&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=9&v=eYaH5J1lc34&feature=emb_logo)



## Future Skills Book: Overview

In this Open Access book, Ulf-Daniel Ehlers analyses changed basic coordinates of higher education worldwide and asks how higher education must evolve to meet in a world of global challenges, social changes and innovation-driven, agile fields of work.

[Download Full Version English](#)

[Download Full Version Deutsch](#)

## Future Skills Introduction

Can graduates really be prepared for the future by predominantly acquiring knowledge? Do we already have adequate concepts for competence development in higher education? Or do we need something new, something radical? Learn more about the definition of Future Skills and our study.

[More](#)

## The Future Skills Turn

It's like having to replace the pilot in a car race, right in the middle of a steep turn and during a risky overtaking manoeuvre. The old institution of higher education is faced with the challenge of having to reinvent itself. Learn more about challenges and opportunities.

[More](#)



# Download Open Access (in German & English)

**DIRECT DOWNLOAD**

[Open Access EN]  
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[www.nextskills.org](http://www.nextskills.org)

# Upcoming Events on nextskills.org

## Meet Us



### PHE@Home Info Days

19 May 2020, Zoom Meeting

Masterclass “Future Skills and Future Universities”

[More Information](#)



### PHE@Home Info Days

20 May 2020, Zoom Meeting

Workshop “Microcredentials in Higher Education: Enabling Future Flexible Learning Pathways”

[More Information](#)



### 30th Annual Conference ‘Professional Higher Education for Sustainable Development: Creating a Change that Endures’

20-21 May 2020, Plovdiv, Bulgaria

# 2 - The Context

# STUCK

In the light of the magnitude of changes we rather stand still



# Changing the Mindset



FROM TALKING ABOUT IT...



TO FIRM ACTIONS...

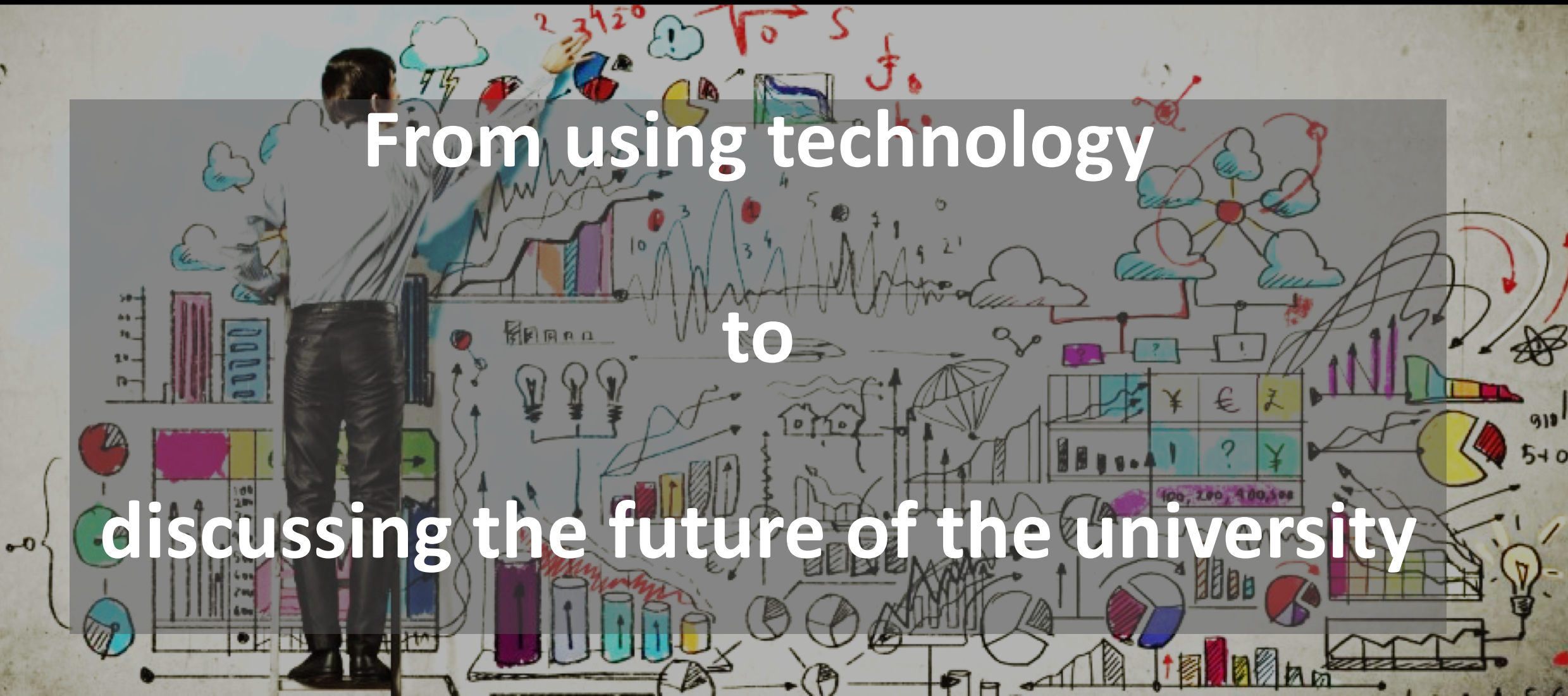
*(NOW THINK ABOUT YOUR OWN CONTEXT – IS THIS BECOMING APPARENT ANYWHERE?)*

# *A changing Masternarrative*

**From using technology**

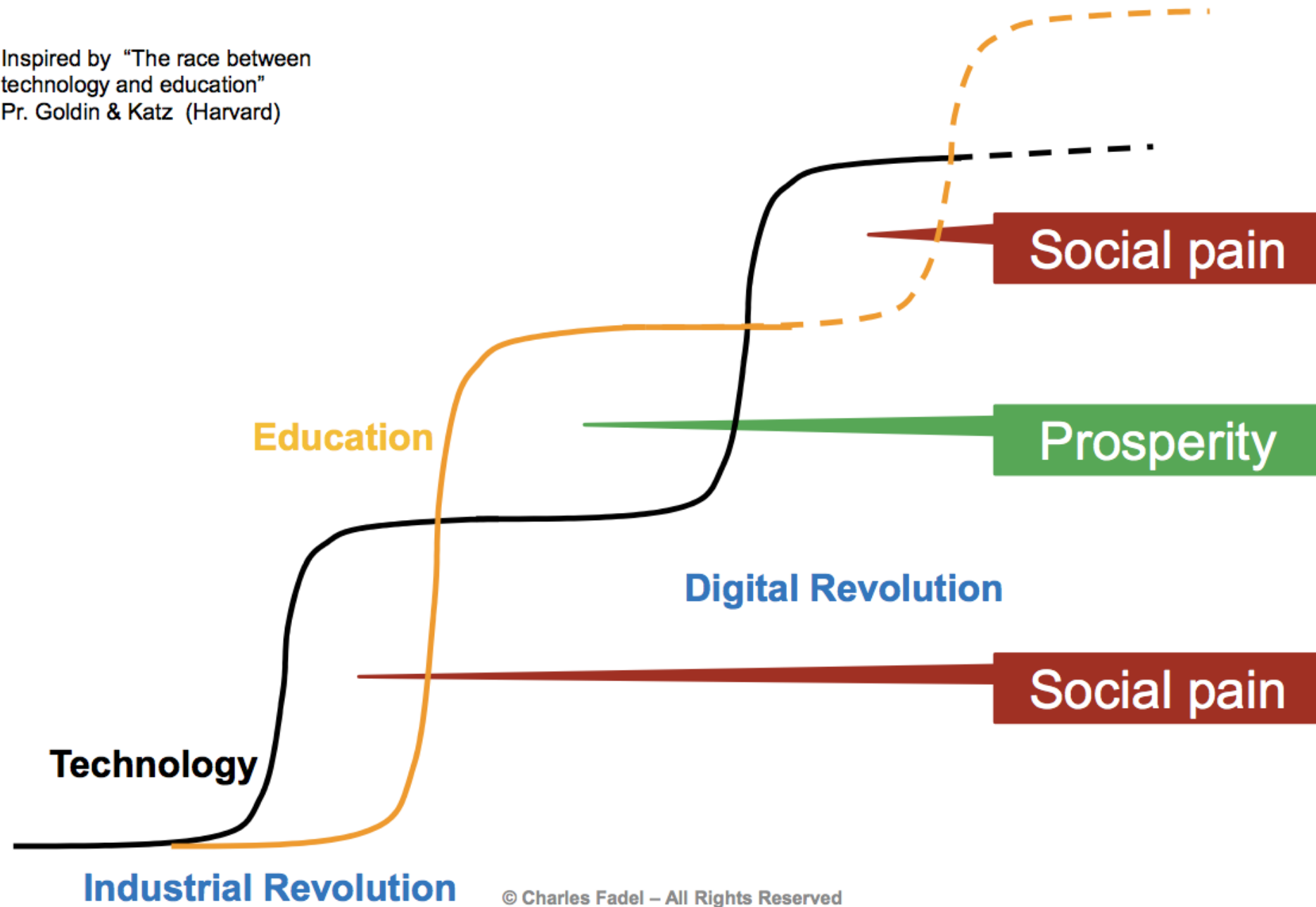
**to**

**discussing the future of the university**



# The Race between Technology and Education

Inspired by "The race between technology and education"  
Pr. Goldin & Katz (Harvard)



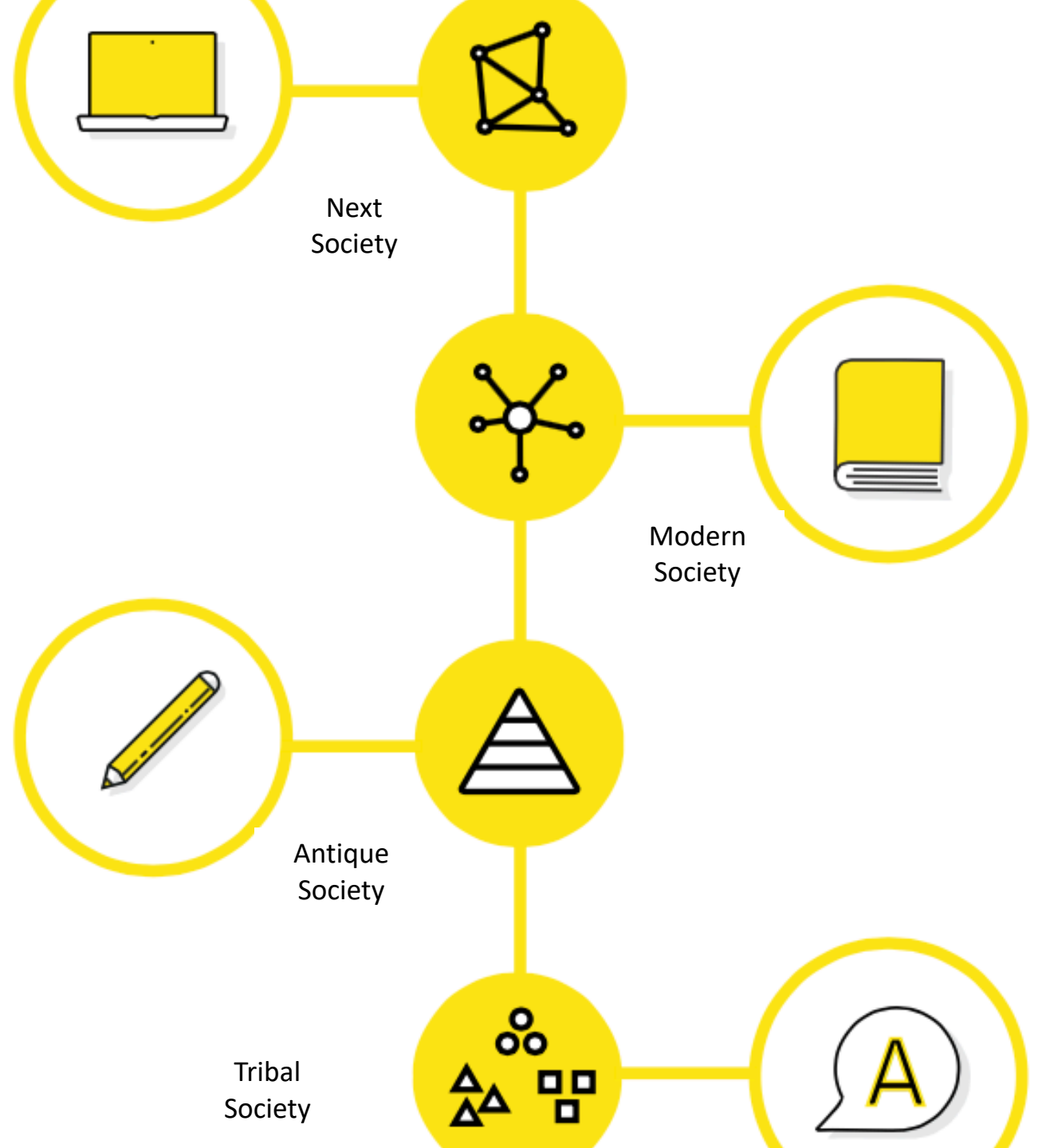
**Industrial Revolution**

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# Next Society - NextSkills



(Dirk Becker 2011)



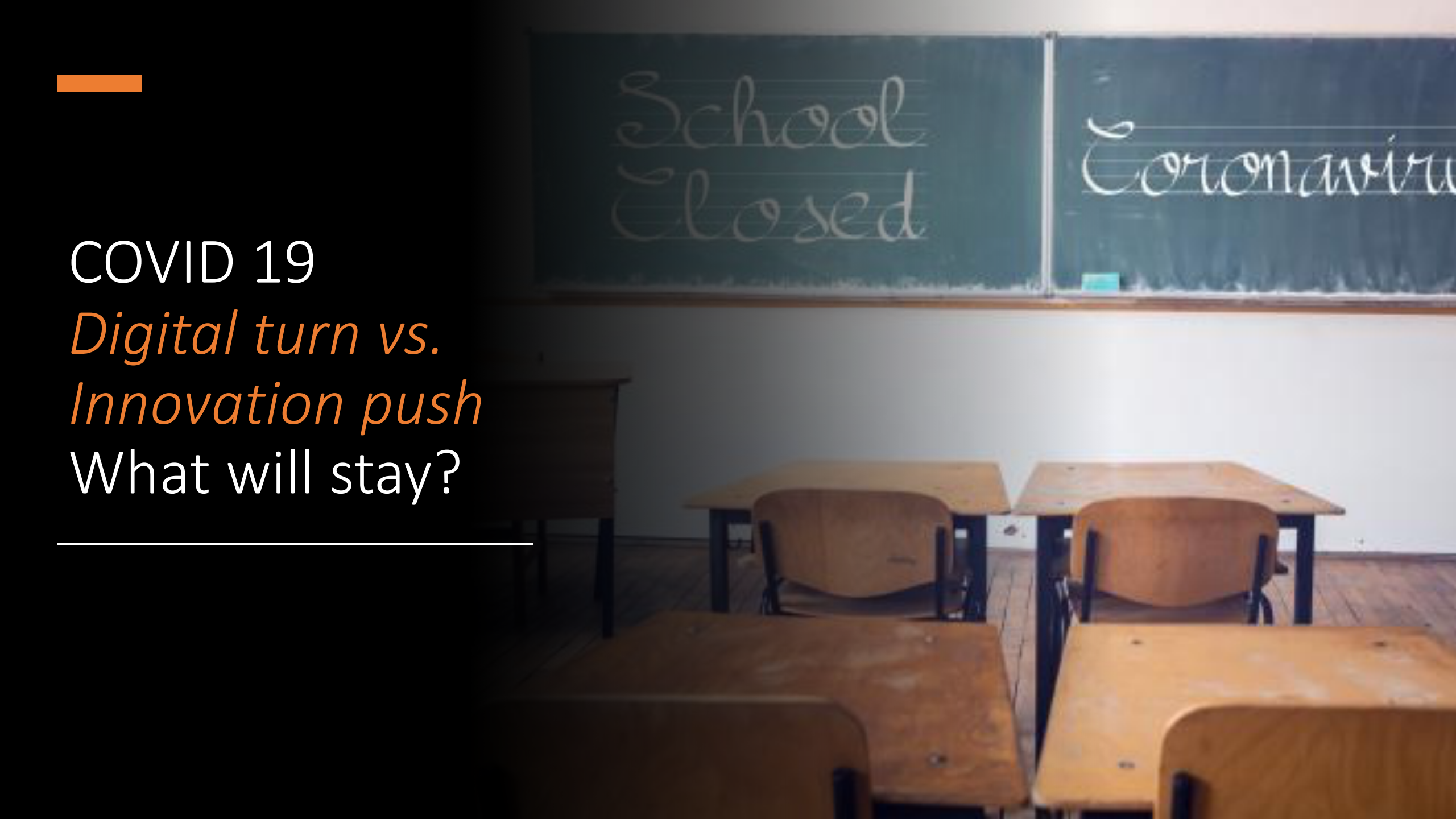




COVID 19

*Digital turn vs.  
Innovation push*  
What will stay?

---



School  
Closed

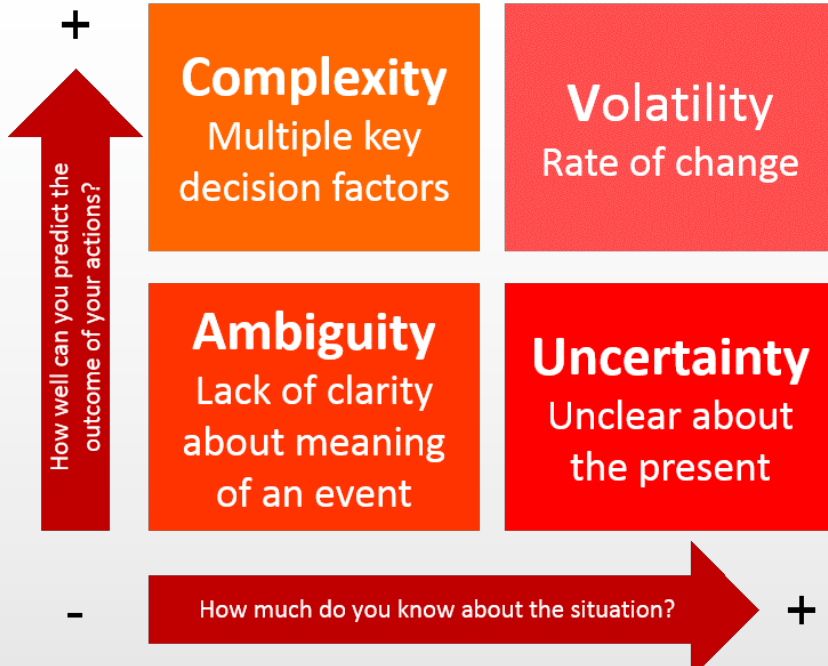
Coronavirus



Emergence

# VUCA

# & Emergence



- The idea behind VUCA is to conceptualise emergence
- The idea of emergence is selforganisation
- From which position do we look at the challenge to design higher education...?
  - To cope...?
  - To react...?
  - To design...?
  - To prepare...?



*We can't rely on procedures to make decisions in complex situations.*  
Gary Klein in *Streetlights and Shadows*, 2011

---

Imagine trying to blow up an air raft while it is still in the box it came in...

*Even in today's exponentially changing and shifting world, we still have this ingrained tendency to approach the very 'idea' of the future as this static and preordained process that we accept as an inevitable consequence of our past and present.*

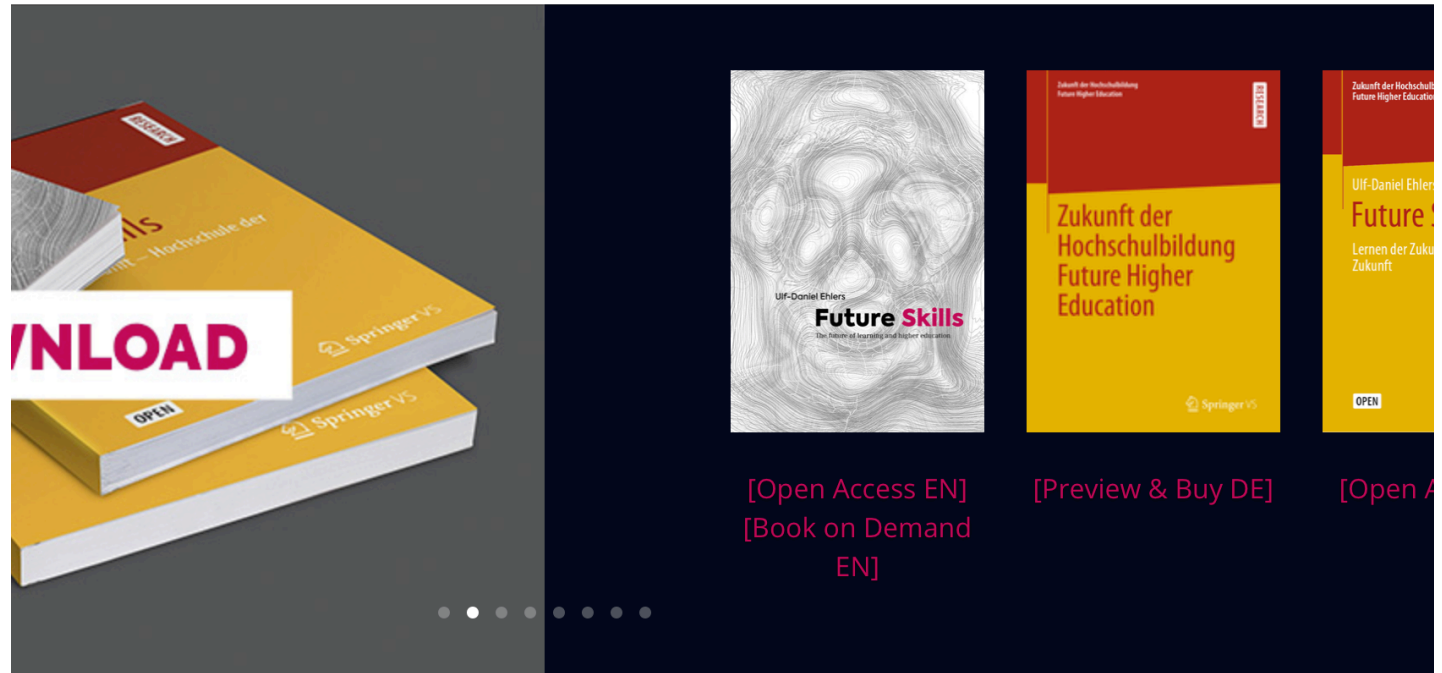


Time for Questions

# 3 – Future Skills in Detail

*Research Design*

*17 Future Skills Profiles*



Download Open  
Access (in German  
& English)

[www.nextskills.org](http://www.nextskills.org)

# Future Skills Approaches

- Often focused on digital literacy or special literacies
- Often strong alignment with employability
- No empirical validation
- Not rooted in education theory or competence concepts

(Ehlers 2019)

| Consolidated Skill Inventory                    | Nr. of matches | The OECD Future Skill Framework | PISA Key Competence Framework | European Commission Future Learning Framework | OECD Key Competencies | OECD Global Competencies | WEF 21st Century Skills | P21 Partnership for 21st century Learning Framework | Tuning Transversal Skill Model | AECEE Transversal Skills and Core Competencies Policy Paper | 21st century stem model | National Research Council Model: Work and Life | 21st skills envision experiences | Harvard Global Citizenship education | Graduate Employability 2.0 | Social and Emotional Learning Model | The future of Skills. Employment in the 21st century | Future Skills Model NextSkills |
|---|----------------|---------------------------------|-------------------------------|---|-----------------------|--------------------------|-------------------------|---|--------------------------------|---|-------------------------|--|----------------------------------|--------------------------------------|----------------------------|-------------------------------------|--|--------------------------------|
| <b>Subject oriented skills</b>                  |                |                                 |                               |   |                       |                          |                         |   |                                |   |                         |  |                                  |                                      |                            |                                     |  |                                |
| Analytical and critical thinking                | 10             |                                 |                               |   | 1                     | 1                        | 1                       | 1   |                                |   | 1                       | 1  | 1                                |                                      |                            | 1                                   | 1  | 1                              |
| Creativity                                      | 11             | 1                               | 1                             | 1   |                       |                          | 1                       | 1   | 1                              |   |                         |  | 1                                |                                      | 1                          | 1                                   | 1  | 1                              |
| Learning skills                                 | 6              |                                 |                               |   |                       |                          |                         |   | 1                              | 1   | 1                       | 1  |                                  |                                      |                            |                                     | 1  | 1                              |
| Action & Initiative                             | 6              | 1                               |                               | 1   |                       |                          |                         | 1   |                                | 1   |                         |  |                                  |                                      |                            | 1                                   |  | 1                              |
| Health Literacy                                 | 4              |                                 |                               |   | 1                     | 1                        |                         |   |                                |   |                         |  |                                  |                                      |                            | 1                                   |  | 1                              |
| Intercultural knowledge and understanding       | 9              |                                 | 1                             |   | 1                     |                          | 1                       | 1   | 1                              | 1   |                         |  | 1                                |                                      |                            | 1                                   |  | 1                              |
| Taking Responsibility                           | 5              | 1                               |                               | 1   |                       | 1                        |                         | 1   |                                |   |                         |  |                                  |                                      |                            |                                     |  | 1                              |
| Persistence/grit                                | 4              |                                 |                               |   |                       | 1                        | 1                       |   |                                |   |                         |  |                                  |                                      |                            | 1                                   |  | 1                              |
| Ability to reflect                              | 3              | 1                               |                               |   |                       |                          |                         |   |                                | 1   |                         |  |                                  |                                      |                            |                                     |  | 1                              |
| Curiosity                                       | 3              |                                 |                               |   |                       |                          | 1                       |   |                                |   |                         |  |                                  |                                      |                            | 1                                   |  | 1                              |
| Entrepreneurship Skills                         | 5              |                                 |                               |   | 1                     |                          |                         |   | 1                              | 1   |                         | 1  |                                  |                                      |                            |                                     | 1  |                                |
| Flexibility                                     | 3              |                                 |                               |   |                       | 1                        |                         | 1   |                                |   |                         |  | 1                                |                                      |                            |                                     |  |                                |
| Global-mindedness                               | 2              |                                 |                               |   | 1                     | 1                        |                         |   |                                |   |                         |  |                                  |                                      |                            |                                     |  |                                |
| Anticipation                                    | 2              | 1                               |                               |   |                       |                          |                         |   |                                | 1   |                         |  |                                  |                                      |                            |                                     |  |                                |
| Deal w. ambiguity and uncertainty               | 2              |                                 |                               | 1   |                       |                          |                         |   |                                |   |                         |  |                                  |                                      |                            |                                     |  | 1                              |
| Empathy   | 2              |                                 |                               | 1   |                       | 1                        |                         |   |                                |   |                         |  |                                  |                                      |                            |                                     |  |                                |
| Form & conduct life plans, personal projects    | 2              |                                 | 1                             |   |                       |                          |                         |   |                                | 1   |                         |  |                                  |                                      |                            |                                     |  |                                |
| Resilience                                      | 2              |                                 |                               | 1   |                       |                          |                         |   | 1                              |   |                         |  |                                  |                                      |                            |                                     |  |                                |
| Compassion                                      | 1              |                                 |                               | 1   |                       |                          |                         |   |                                |   |                         |  |                                  |                                      |                            |                                     |  |                                |
| Failing Forward                                 | 1              |                                 |                               | 1   |                       |                          |                         |   |                                |   |                         |  |                                  |                                      |                            |                                     |  |                                |
| Reconciling Tensions & Dilemmas                 | 1              | 1                               |                               |   |                       |                          |                         |   |                                |   |                         |  |                                  |                                      |                            |                                     |  |                                |
| Risk Taking                                     | 1              |                                 |                               | 1   |                       |                          |                         |   |                                |   |                         |  |                                  |                                      |                            |                                     |  |                                |
| <b>Object related skills</b>                    |                |                                 |                               |   |                       |                          |                         |   |                                |   |                         |  |                                  |                                      |                            |                                     |  |                                |
| Digital & Data Literacy                         | 9              | 1                               |                               |   | 1                     | 1                        | 1                       | 1   |                                |   |                         | 1  | 1                                |                                      |                            | 1                                   |  | 1                              |
| STEM skills, complex problem solving            | 7              |                                 |                               |   | 1                     |                          | 1                       | 1   |                                |   | 1                       | 1  | 1                                |                                      |                            |                                     |  | 1                              |
| Financial Literacy                              | 5              |                                 |                               |   |                       | 1                        | 1                       | 1   |                                | 1   |                         |  |                                  |                                      |                            | 1                                   |  |                                |
| <b>Organisation related skills</b>              |                |                                 |                               |   |                       |                          |                         |   |                                |   |                         |  |                                  |                                      |                            |                                     |  |                                |
| Communication skills (language, symbols, texts) | 14             |                                 | 1                             |   | 1                     | 1                        | 1                       | 1   | 1                              | 1   | 1                       | 1  | 1                                | 1                                    | 1                          |                                     |  | 1                              |
| teamwork  | 8              |                                 | 1                             | 1   | 1                     |                          |                         |   | 1                              |   |                         |  | 1                                | 1                                    |                            | 1                                   |  | 1                              |



# Nextskills: Exploration so far...



Future Organisations:  
Next Skills organisational  
Screening



Next Skills Interview  
Study



Next Skills Delphi



Future Skills Delphi  
Report



Future Skills Book  
(Engl. in January)



nextskills.org  
Website (Skillfinder)



Publications



Future Skills Workshops

## Methodological set-up

### Delphi study I

Adaption speed predictions

Future scenarios for HE  
Future Skills

### Delphi study II

### Qualitative interview study

17 in-depth interviews

**Comparative analysis of future skills models & state of the art literature analysis**

Expert-based screening and analysis of competence concepts from 120 organizations

- Multi-method
- Qualitative
- Quantitative

Study Design Nextskills.org

## part I: Scenarios for the Future of Higher Education

### ➤ Step 1: Drivers

- Consequence 1
- Consequence 2
- Consequence 3
- Consequence 4

### ➤ Step 2: Scenarios for the Future of Higher Education

- Scenario 1
- Scenario 2
- Scenario 3
- Scenario 4

Level of agreement

*Drivers for the future of higher education*

*Possible scenarios for the development of higher education institutions*

## part I: Scenarios for the Future of Higher Education

### ➤ Step 1: Drivers

- Consequence 1
- Consequence 2
- Consequence 3
- Consequence 4

### ➤ Step 2: Scenarios for the future of higher education

- Scenario 1
- Scenario 2
- Scenario 3
- Scenario 4

Readiness

## part II: Future Skills and Future Learning

### ➤ Topic 1: Individual learning experience and skill development

- Statement 1
- Statement 2

Level of agreement

### ➤ Topic 2: Future Skills

- Subject-development related skills
- Object-related skills
- Organization-related skills

Importance and readiness

### ➤ Topic 3: Institutional level and development of the study process

- Statement 1
- Statement 2
- Statement 3
- ...
- Statement 11

Level of agreement

*Possible concepts for the future of learning and Future Skills*

## part II: Future Skills and Future Learning

### ➤ Topic 1: Individual learning experience and skill development

- Statement 1
- Statement 2

Readiness

### ➤ Topic 2: Future Skills

- Importance versus readiness of higher education institutions to support the development of Future Skills

Steps towards a focus on Future Skills in higher education institutions

### ➤ Topic 3: Institutional level and development of the study process

- Statement 1
- Statement 2
- Statement 3
- ...
- Statement 10

Readiness

Concept clarification and probability assessment

Time estimates on higher education institution's readiness

# Future Skill Profiles

- 17 Profiles through qualitative analysis
- Each profile contains several competences



Learning literacy



Self-efficacy



Self-determination



Self-competence



Reflective competence



Decision competence



Initiative and performance competence



Ambiguity competence



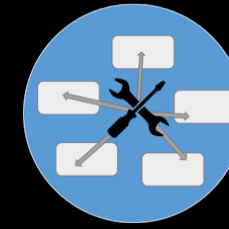
Ethical competence



Design-thinking competence



Innovation competence



Systems competence



Digital literacy



Sense-making



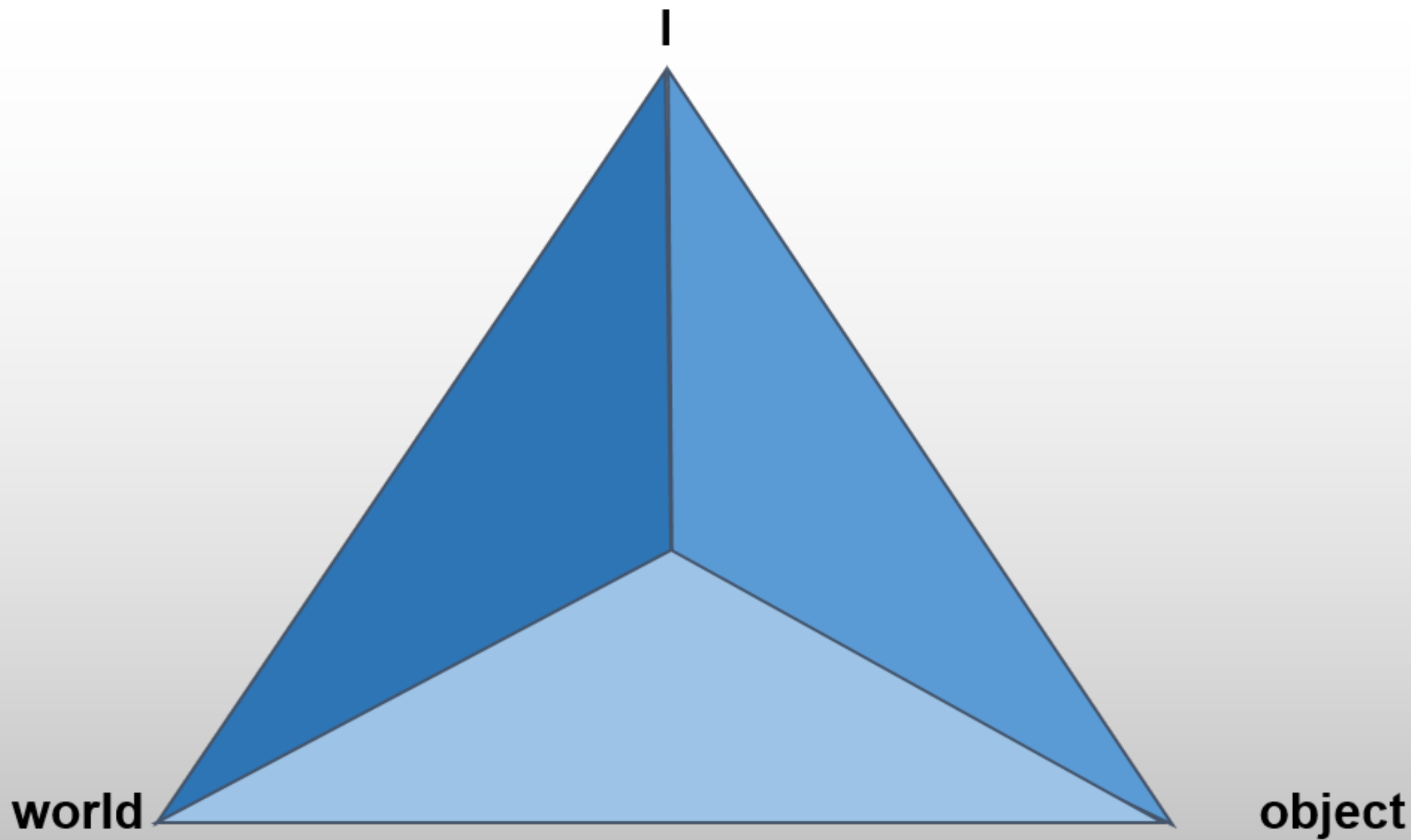
Future and design competence

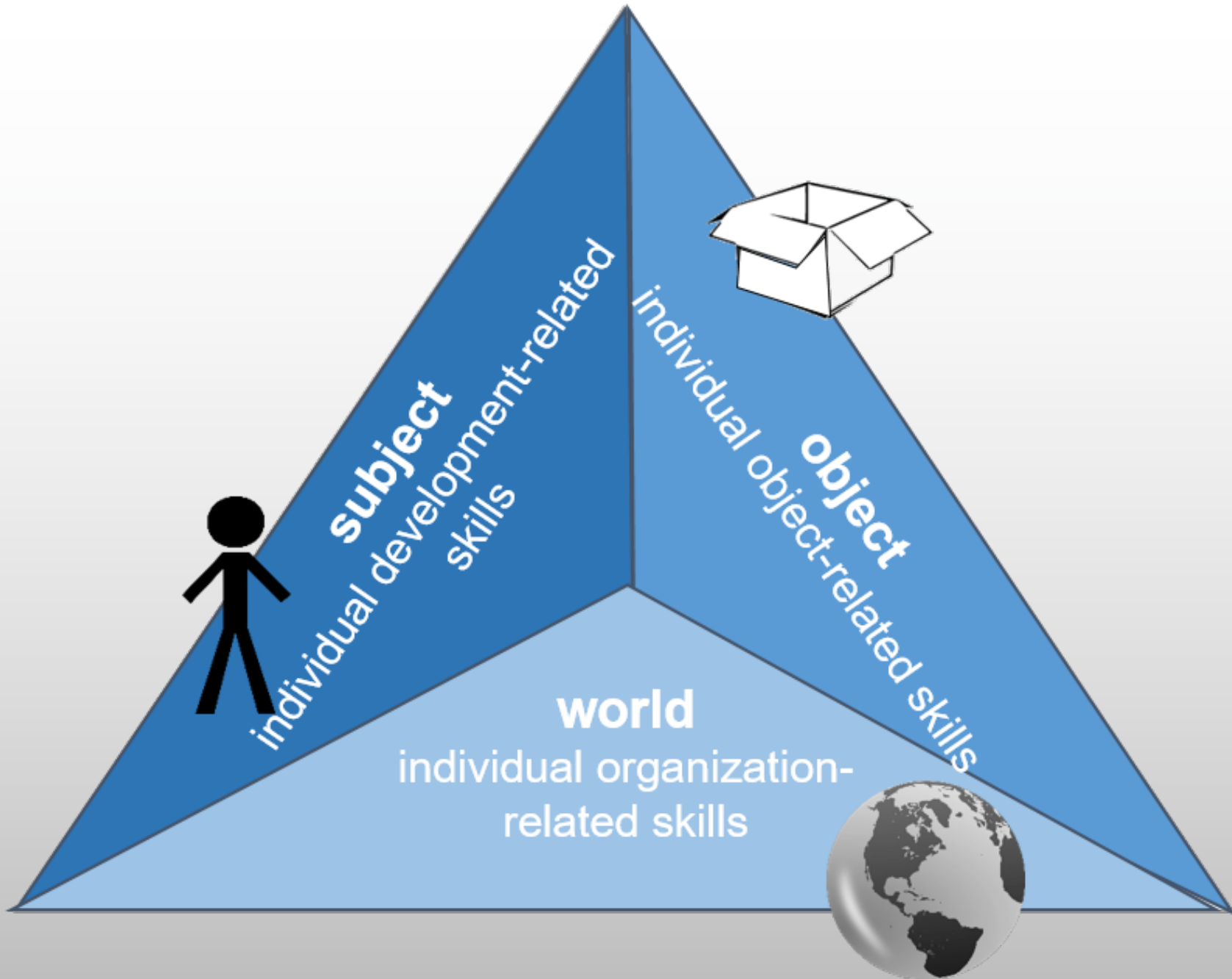


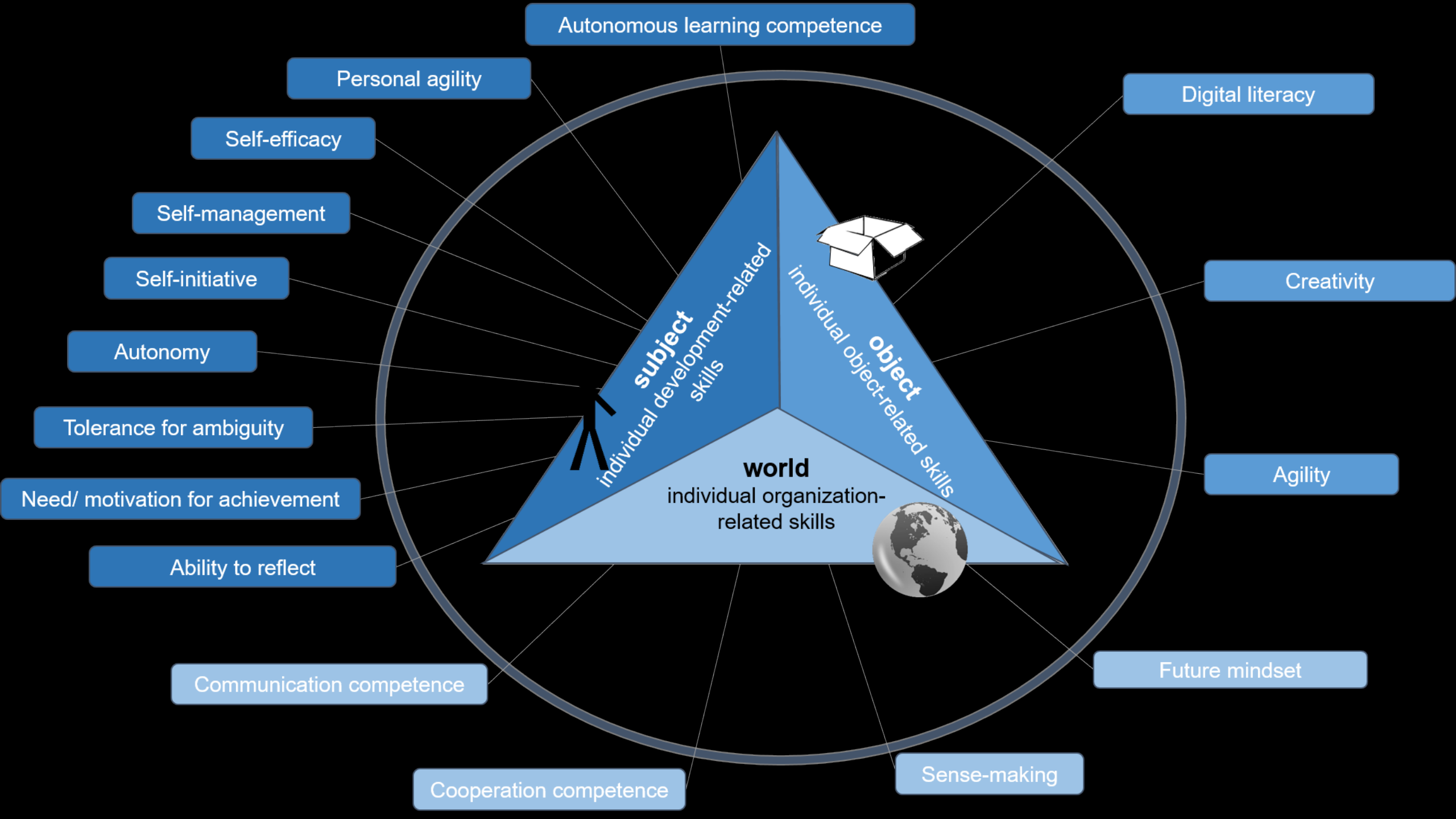
Cooperation competence



Communication competence







Which Future Skills would you like to explore in your classroom? As a student? A professional learner? A teacher?

## Future Skill Profiles

- 17 Profiles through qualitative analysis
- Each profile contains several competences



Learning literacy



Self-efficacy



Self-determination



Self-competence



Reflective competence



Decision competence



Initiative and performance competence



Ambiguity competence



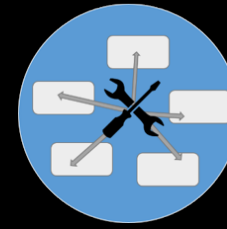
Ethical competence



Design-thinking competence



Innovation competence



Systems competence



Digital literacy



Sense-making



Future and design competence

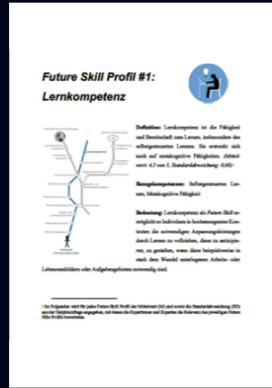


Cooperation competence



Communication competence

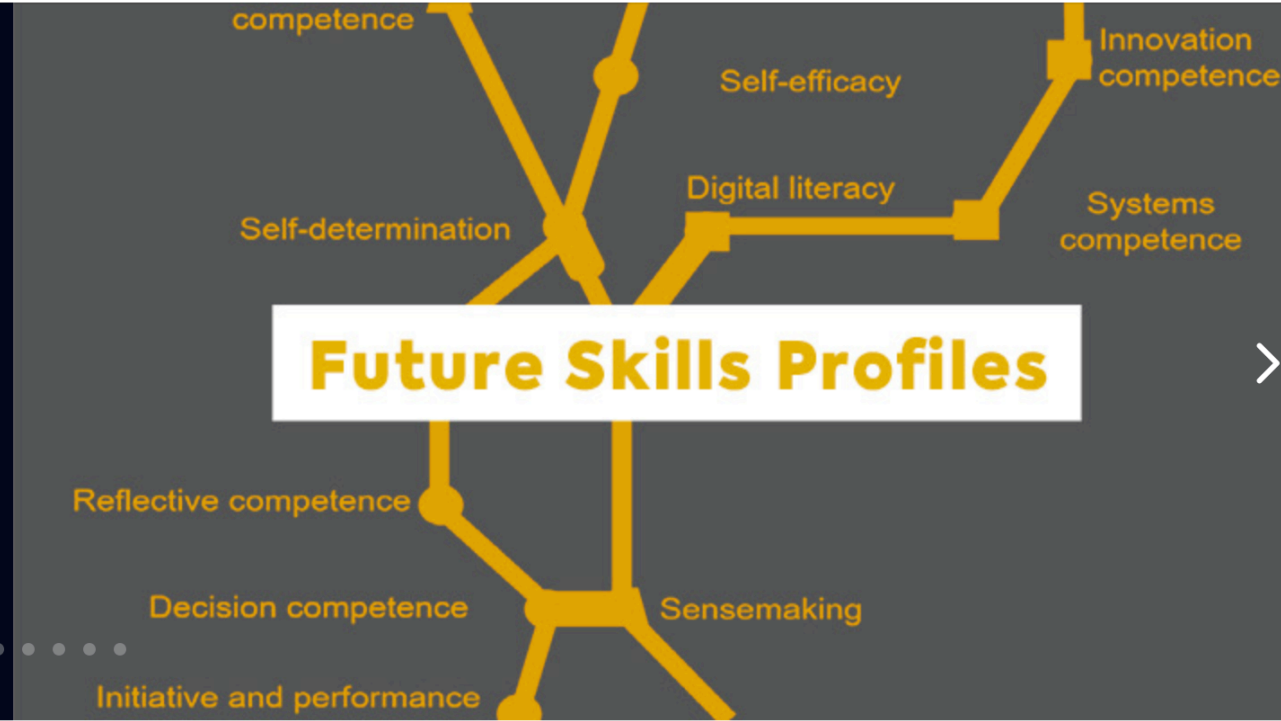




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## Explore the Future Skills Universe

### Future Skills

#### Explore Future Skills

The NextSkills Studies suggest a new framework for Future Skills which consists of 17 clearly defined Future Skills Profiles. In addition, the Future Skills Triple

### FutureSkills Universities

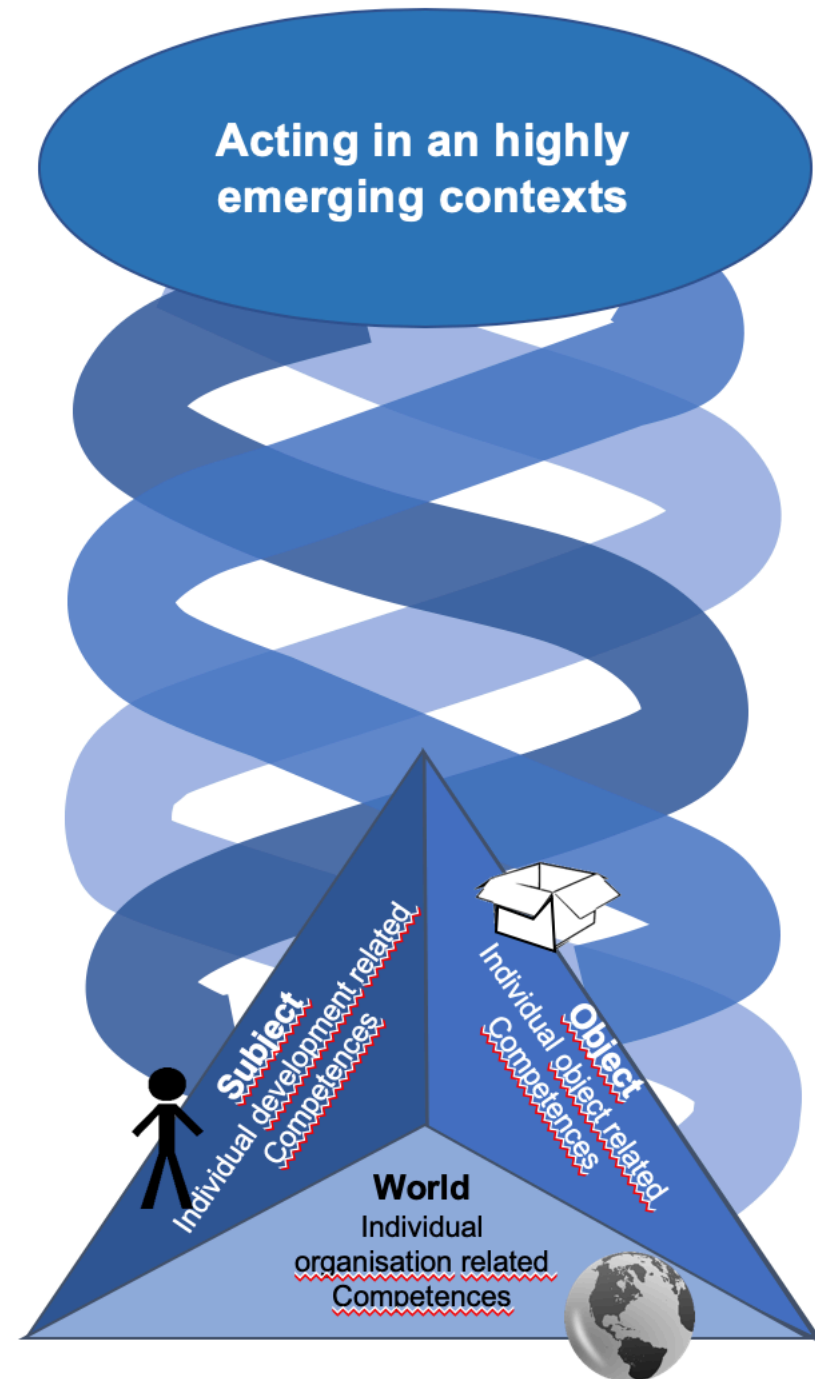
#### Explore Future Universities

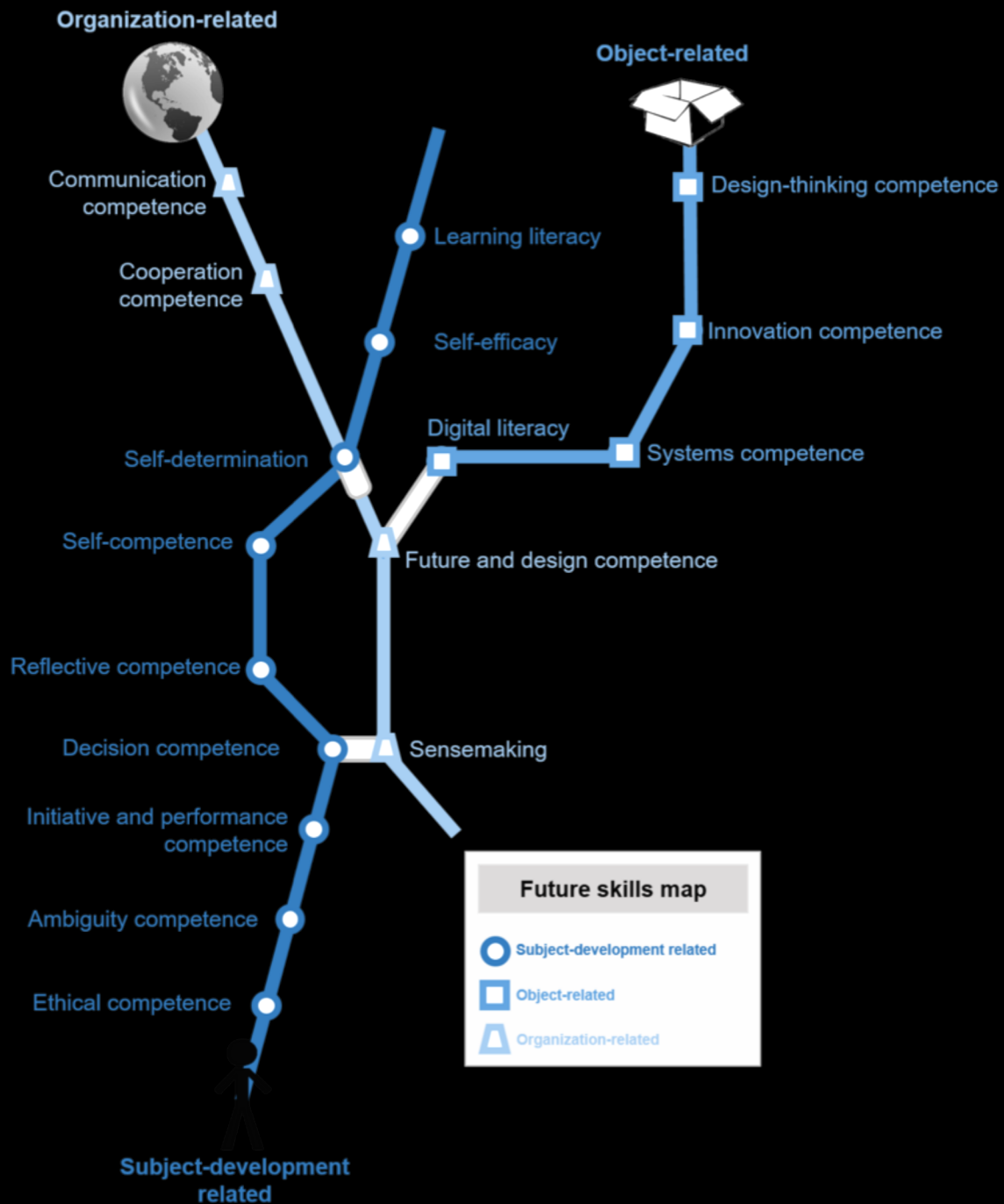
The NextSkills Studies call for rethinking higher education and propose clear-cut drivers for the development of the University of

[www.nextskills.org](http://www.nextskills.org)

# Triple-Helix Model

Competence to act in future unknown and highly emergent professional and private contexts is a result of combining interdependent skills in three areas.





# Skillmap & Skillfinder

- (in planning)
- To find definitions and descriptions at [Nextskills.org](https://nextskills.org)

# 60 Seconds Relaxation

*collaborative association exercise ...*

- Let's freely associate together
- Use the Chat window
- 60 seconds...
- Let's be visionary, colourful, experimental

What do you think about when you hear the  
term...

# Future Skills?

Write into the chat the first term you  
think about...Read what the others  
write...

# 4 – Structures and Theory

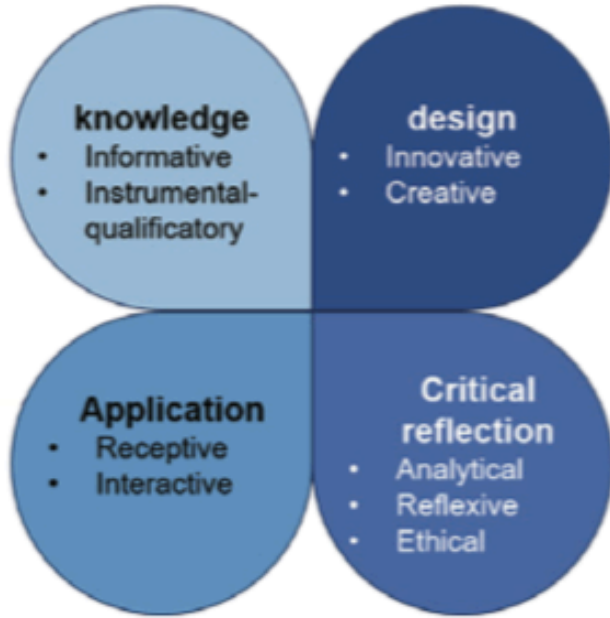
# 4 Shifts in Organisational Realities

A large flock of birds is captured in flight against a sunset sky. The birds are arranged in a dense, V-shaped formation, with the lead birds at the top left and the tail extending towards the bottom right. The sky transitions from a pale blue at the top to a warm orange and yellow at the bottom, with a thin white contrail visible on the right side.

Shift 1: From Standardisation  
to **Self-organization**



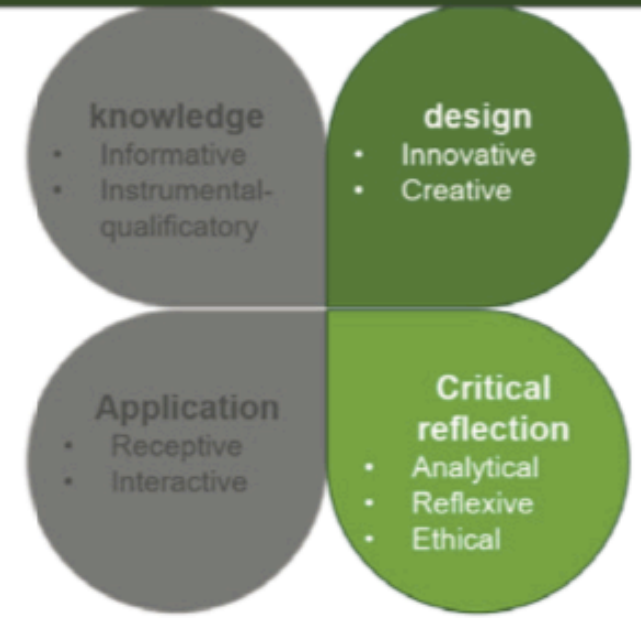
## Competence dimensions



## Competence focus – so far



## Competence focus – future



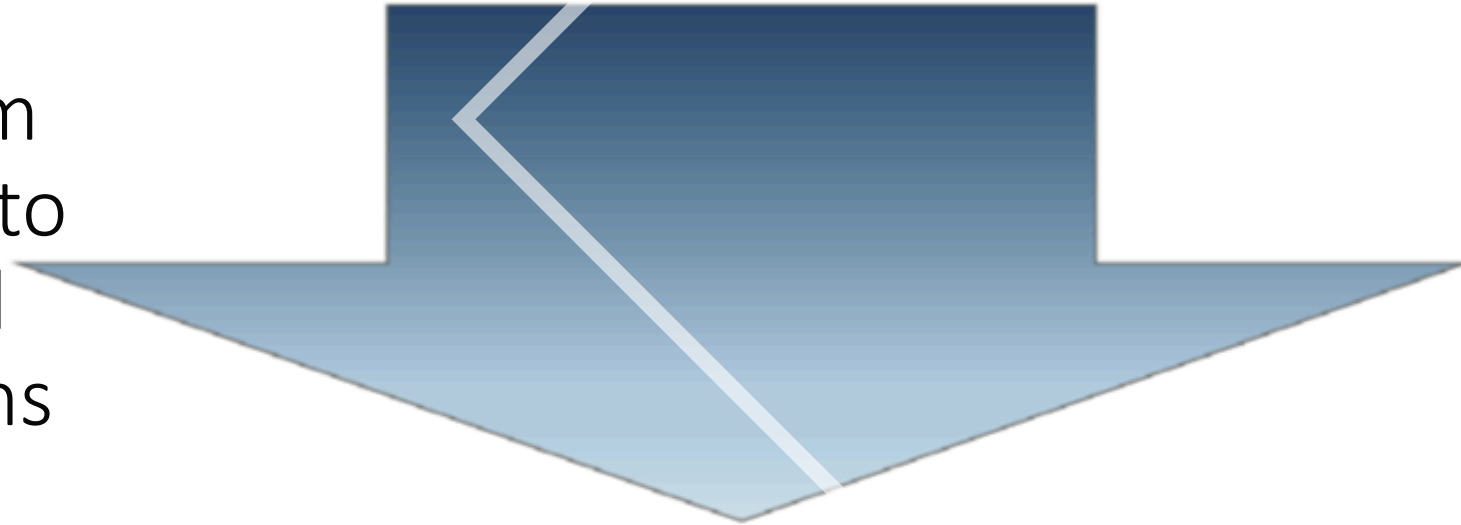
Shift 2: From  
Knowledge to  
Competence

# Organisational Change in Future Organisations

So far

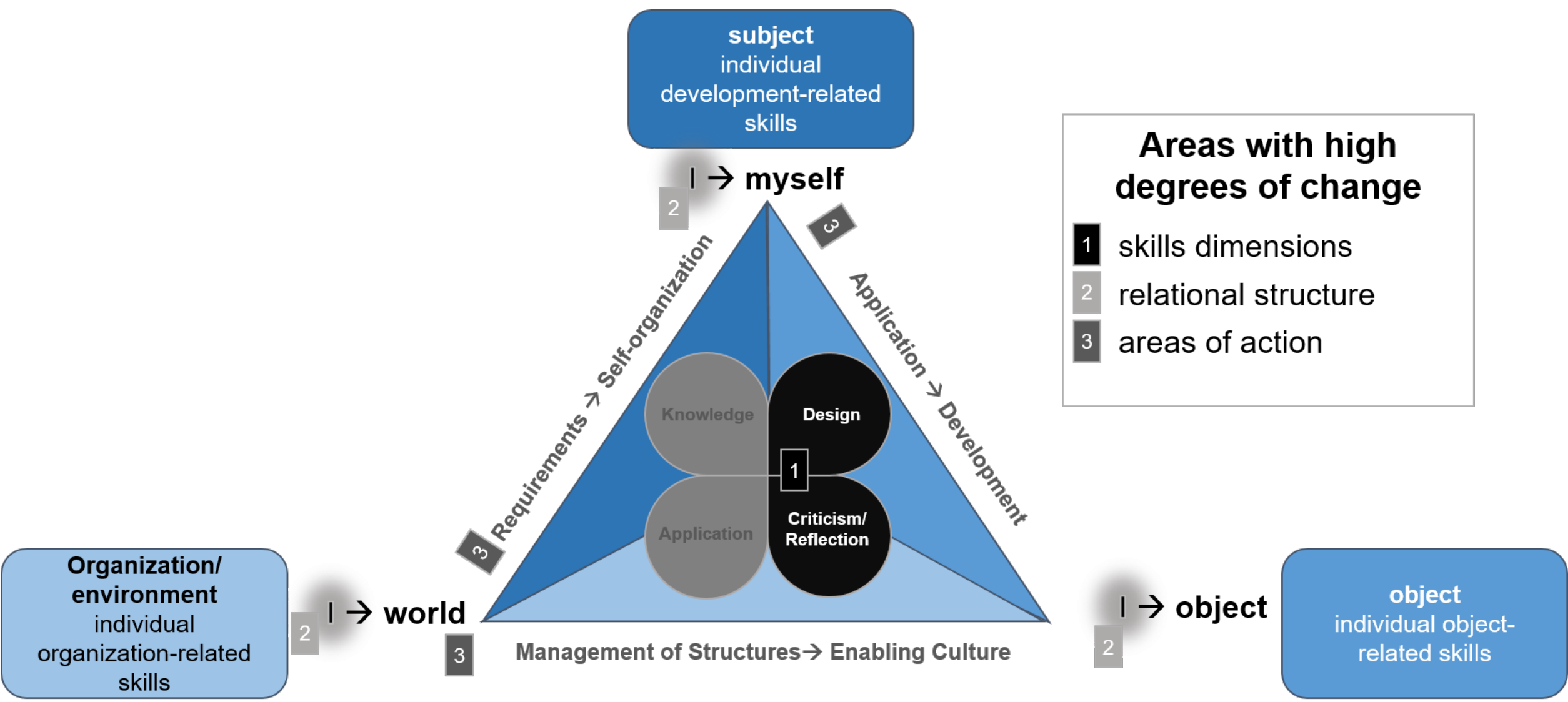


Shift 3: From Hierarchical to Networked Organisations

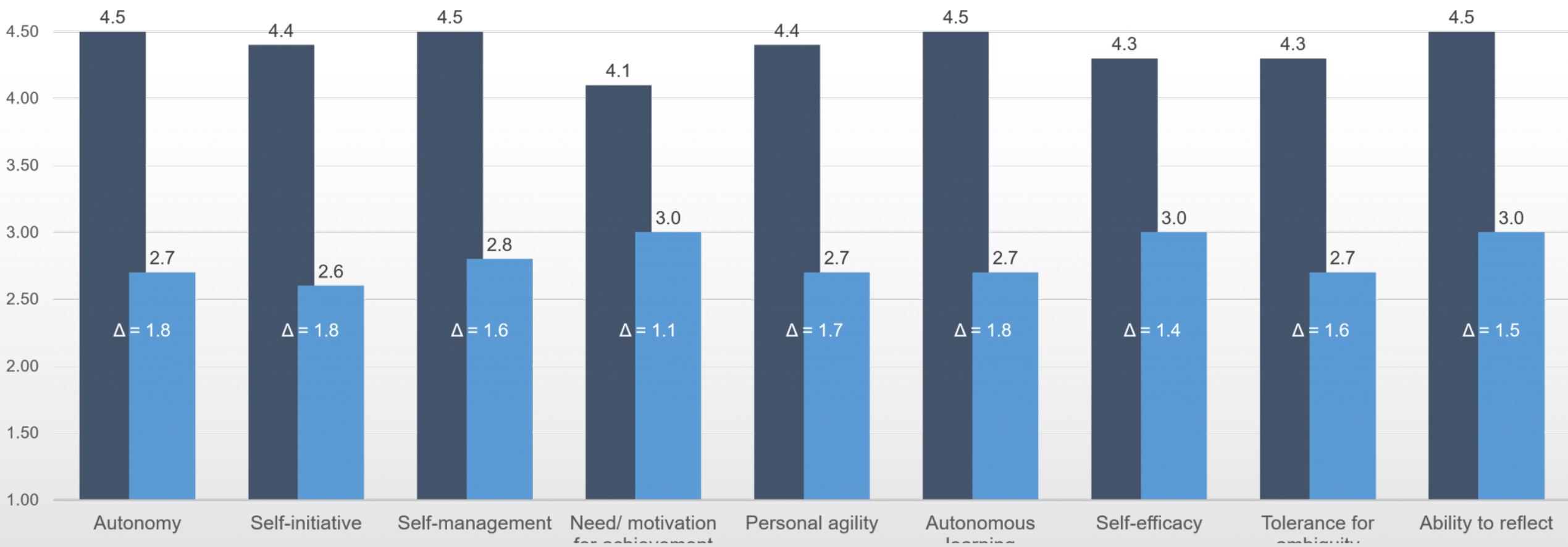


Future

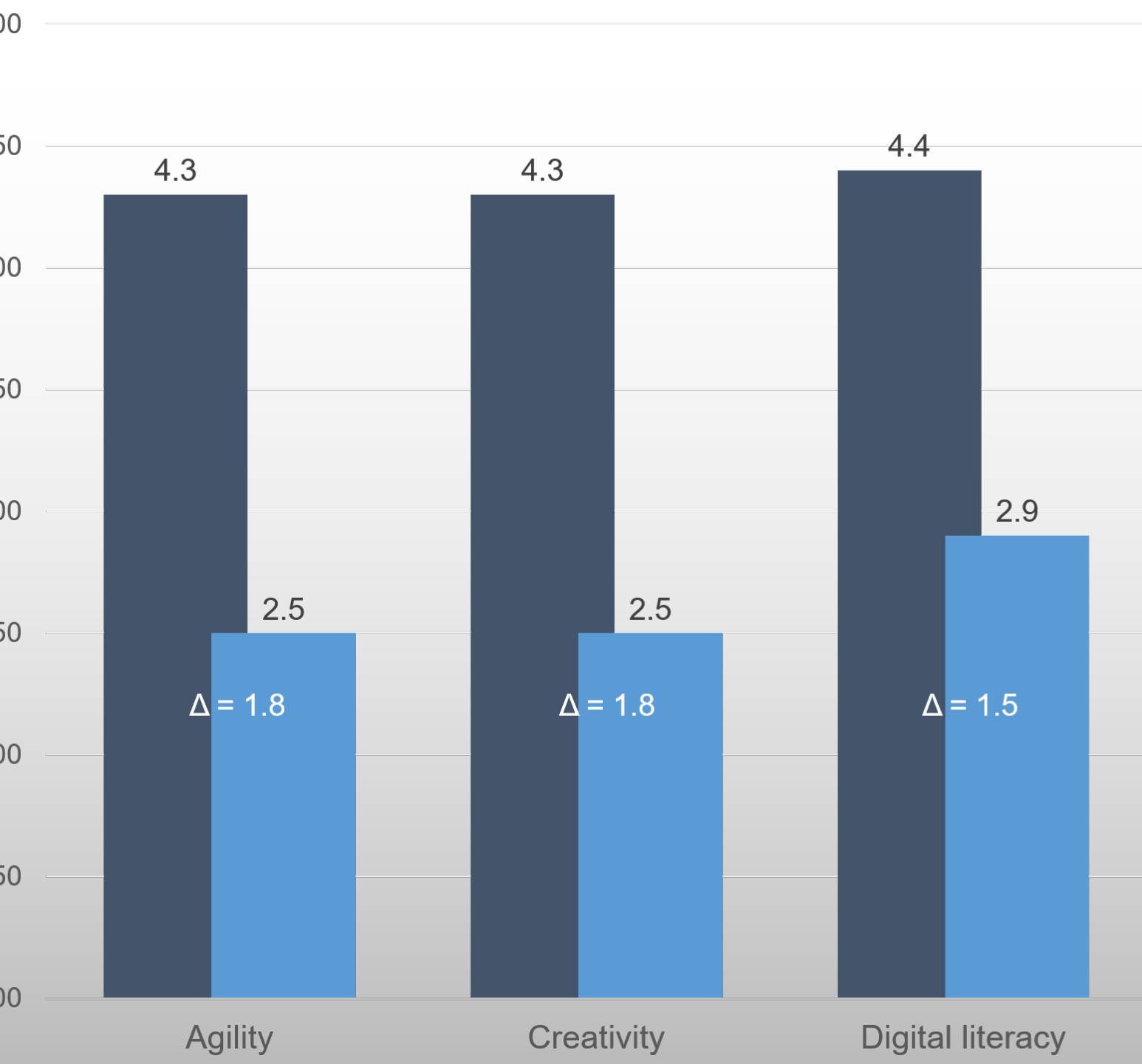




# 5 – Future Skills in Higher Education



Higher Education readiness  
Subject-related Future Skills

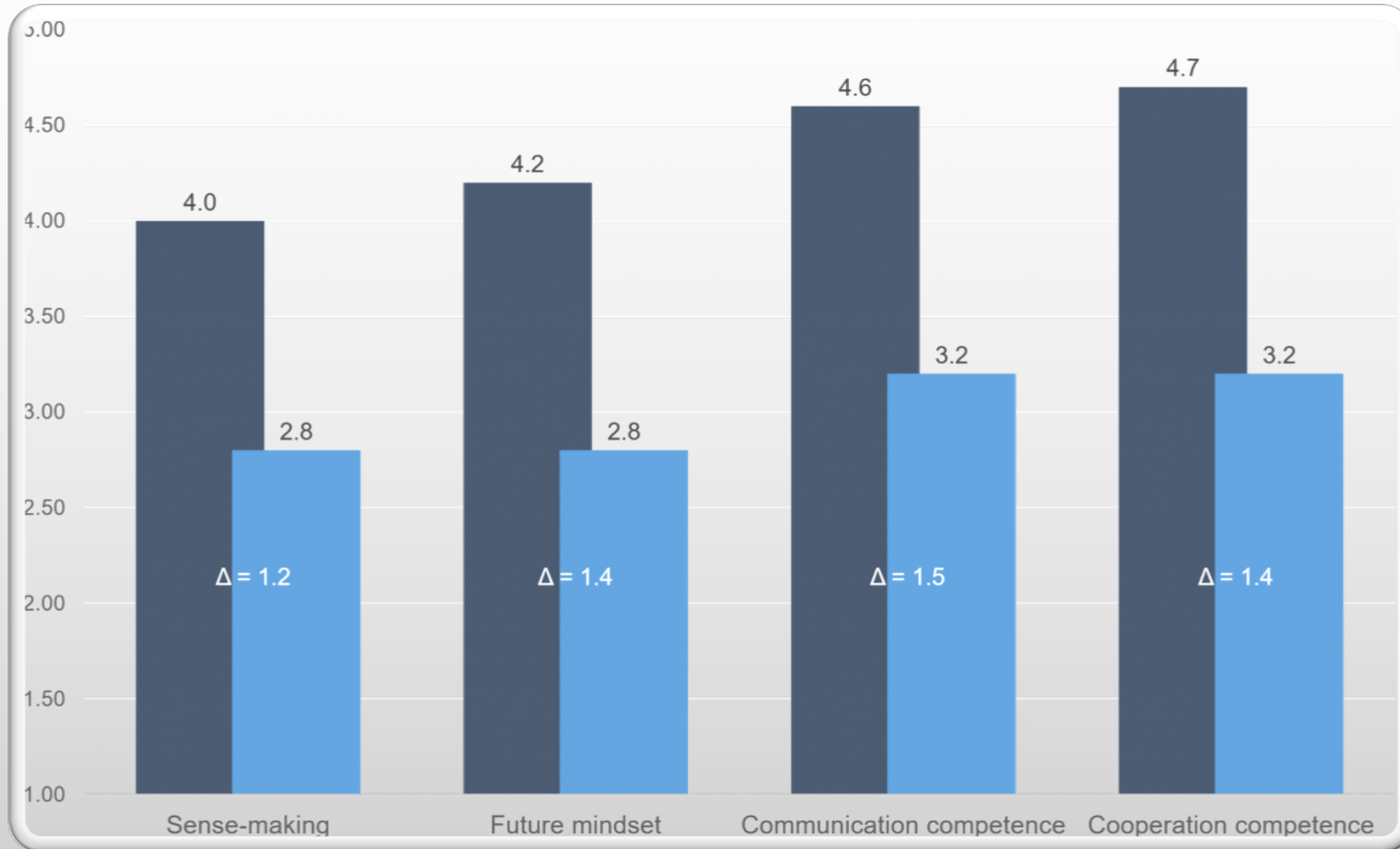


Higher  
Education  
readiness

Object-Related Future Skills

# Higher Education readiness

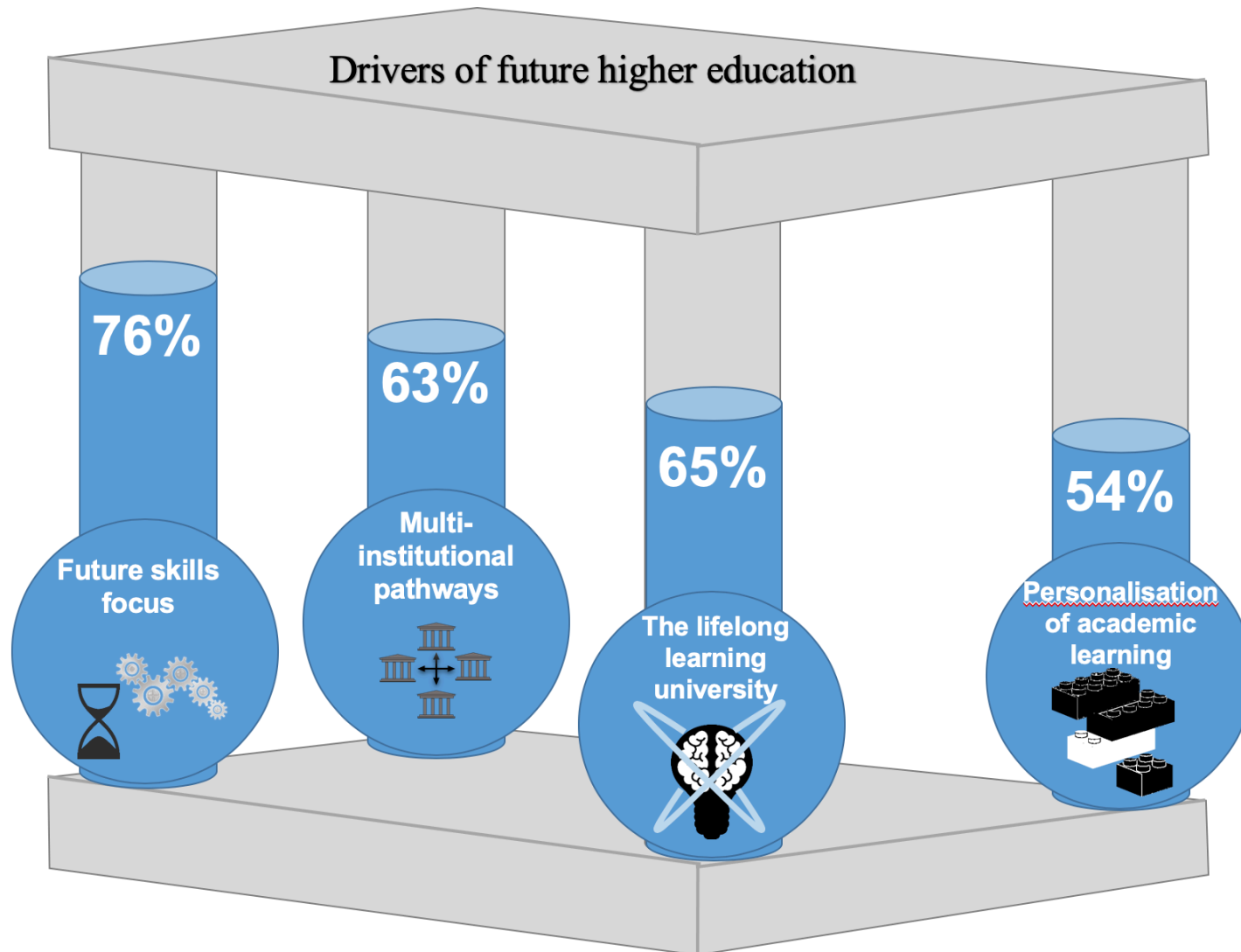
Organisation-Related Future Skills



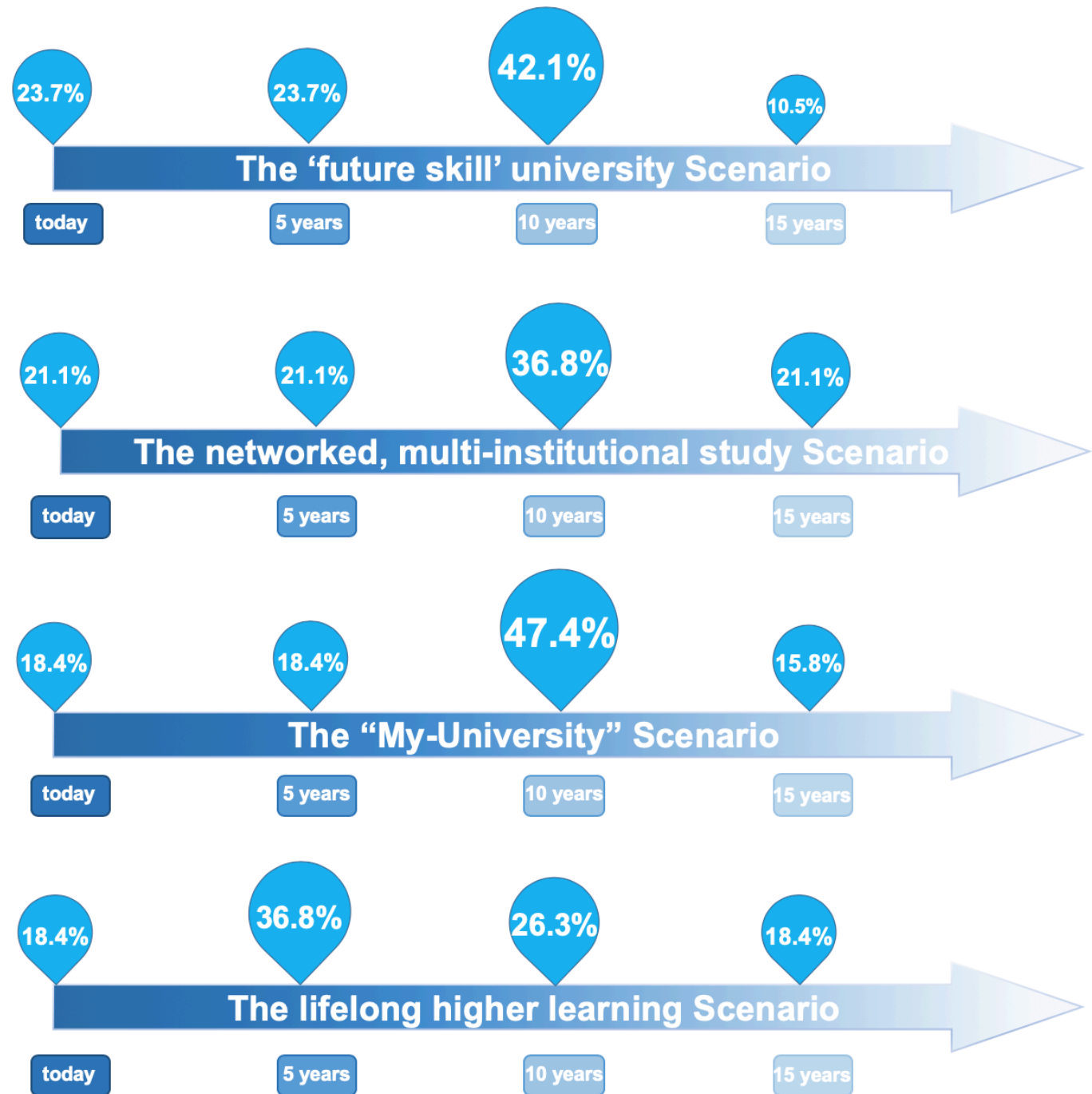
# Scenarios for Future Higher Education



## Drivers of future higher education



# 4 Scenarios for Future Higher Education



# Good Practices in Demand

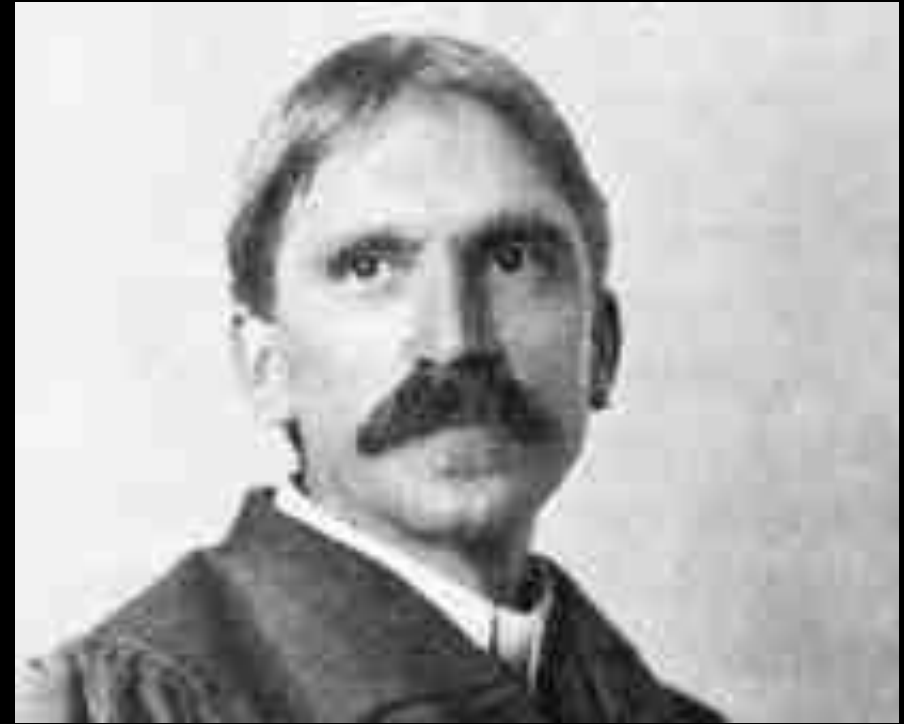
- Can you share your best examples, literature sources, institutions, links with us?
- Please take some time to think about it and let's flood the chat with it.
- We will be compiling them and feed them back to you

# Rethinking Higher Education

‘The path of least resistance and least trouble is a mental rut already made.

It requires troublesome work to undertake the alteration of old beliefs.’

*John Dewey 1933*



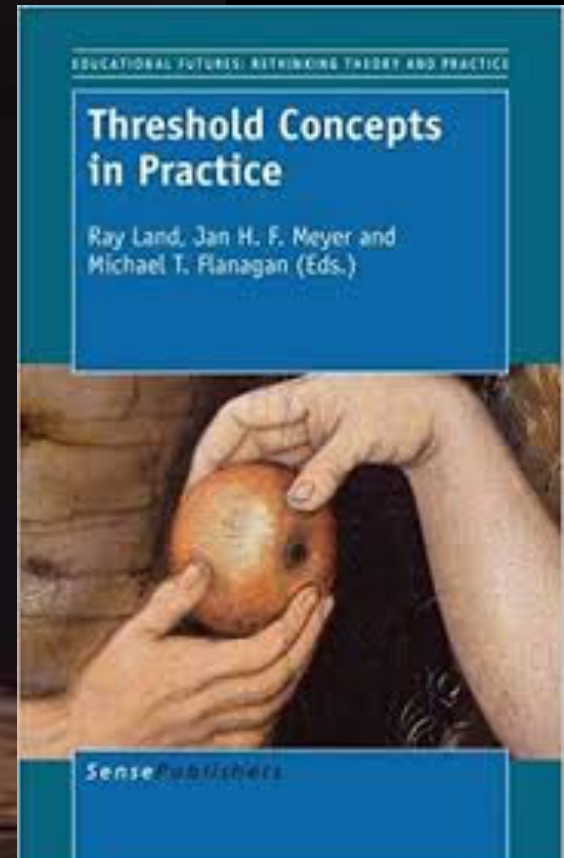
Real learning requires stepping into the unknown, which initiates a rupture in knowing...

By definition, all TC scholarship is concerned (directly or indirectly) with encountering the unknown.

Schwartzman 2010 p.38



# Threshold Concepts (Rand & Meyer)



# Thank you for your Attention!

Ulf-Daniel Ehlers, Germany

[www.ulf-ehlers.net](http://www.ulf-ehlers.net) / [www.nextskills.org](http://www.nextskills.org) / [www.next-education.org](http://www.next-education.org)



*“In a time of exploding change – with personal lives being torn apart, the existing social order crumbling, and a fantastic new way of life emerging on the horizon – asking the very largest of questions about our future is not merely a matter of intellectual curiosity. It is a matter of survival.” -Alvin Toffler*



A 3D maze with a path leading to a small figure at the center. The maze is composed of light blue and white walls, and the path is highlighted in a lighter shade. The background is a soft, light blue gradient.

**ulf.ehlers@dhbw-karlsruhe.de**

Baden-Württemberg Cooperative State University  
European Association for Institutes of Higher Education

EDEN  
EURASHE

[www.nextskills.org](http://www.nextskills.org)  
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[www.mindful-leaders.net](http://www.mindful-leaders.net)