

# digital capabilities

**What digital capabilities  
will our students need  
to thrive?**



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**Digital capabilities and human thriving**

**The uses and limits of frameworks**

**Elements of digital capability:  
humans thinking with machines**

**Critical capabilities for the future**



**Digital capabilities and human thriving**

# digital capabilities

## Digital capabilities



### LLiDA menu

- [Home](#)
- [About](#)
- [Audit](#)
- [Exemplars](#)
- [Team](#)
- [Partners](#)
- [Resources](#)
- [Inquiries](#)
- [Project WIKI](#)
  
- [Caledonian Academy](#)

*“Those capabilities that allow us to live, learn and work in a digital society”*

*“Digital literacies - or their lack - will have a life-long, life-wide impact.”*

*Beetham et al. (2008)*



p until later in the study)

# Digital capabilities

**Media literacy**  
Critically read and creatively produce academic and professional communications in a range of media

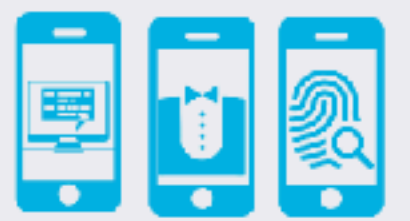
**Module 1: Developing Digital Identities**  
This module addresses ways of working with the digital tools and networks to which you have access in your contexts in order to enable you to create and manage your own online presences and footprints, and to exercise control over your expression of this digital identity (or identities). By implication, this involves negotiating pathways within contexts.

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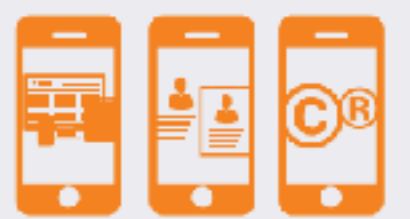
Content creation



Safety



Problem solving



**21**  
COMPETENCES

# digital capabilities

## Digital capabilities



- Technologies and techniques in the hands of learners/workers/citizens
- From functional skills to knowledge practices and cultures
- Multiple and contextual: differences within and between cultures (what does it mean to thrive?)
- Emergent, negotiated

# human capabilities

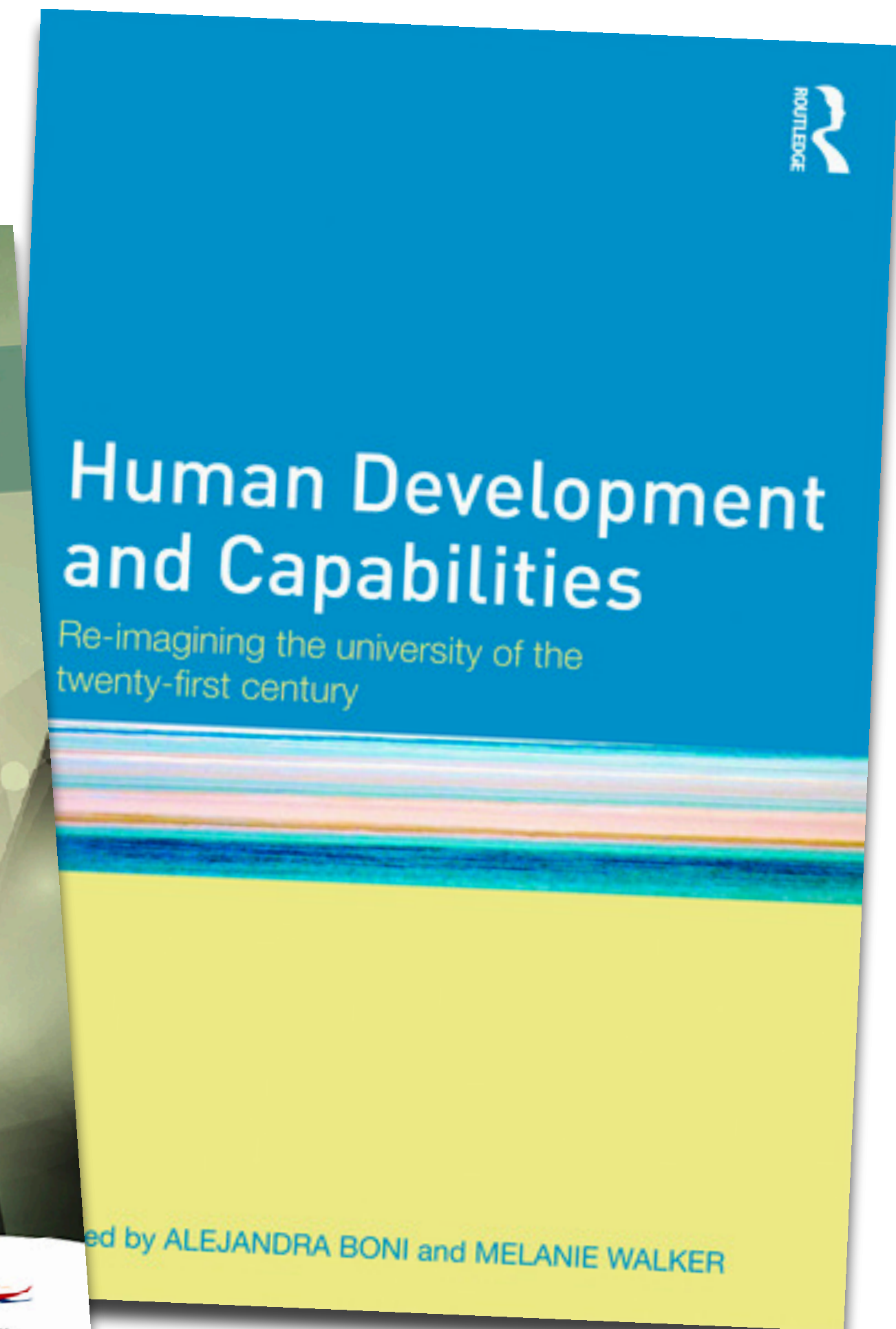
- Amartya Sen
- Martha Nussbaum
- De Sousa Santos
- Melanie Walker
- Merridy Wilson-Strydom
- Alejandra Boni
- Michalinos Zembylas
- Vivienne Bozalek
- ...



# human capabilities

## Human capabilities

- *“A curriculum determines the academic formation of a new generation. That is, it helps to **create people who think in a particular way** about particular subjects and talk about them in a particular language and idiom. This is what makes the curriculum a particularly good place to plant the seeds of transformation”*
- Harry Garuba (2015)





# Human/digital capabilities

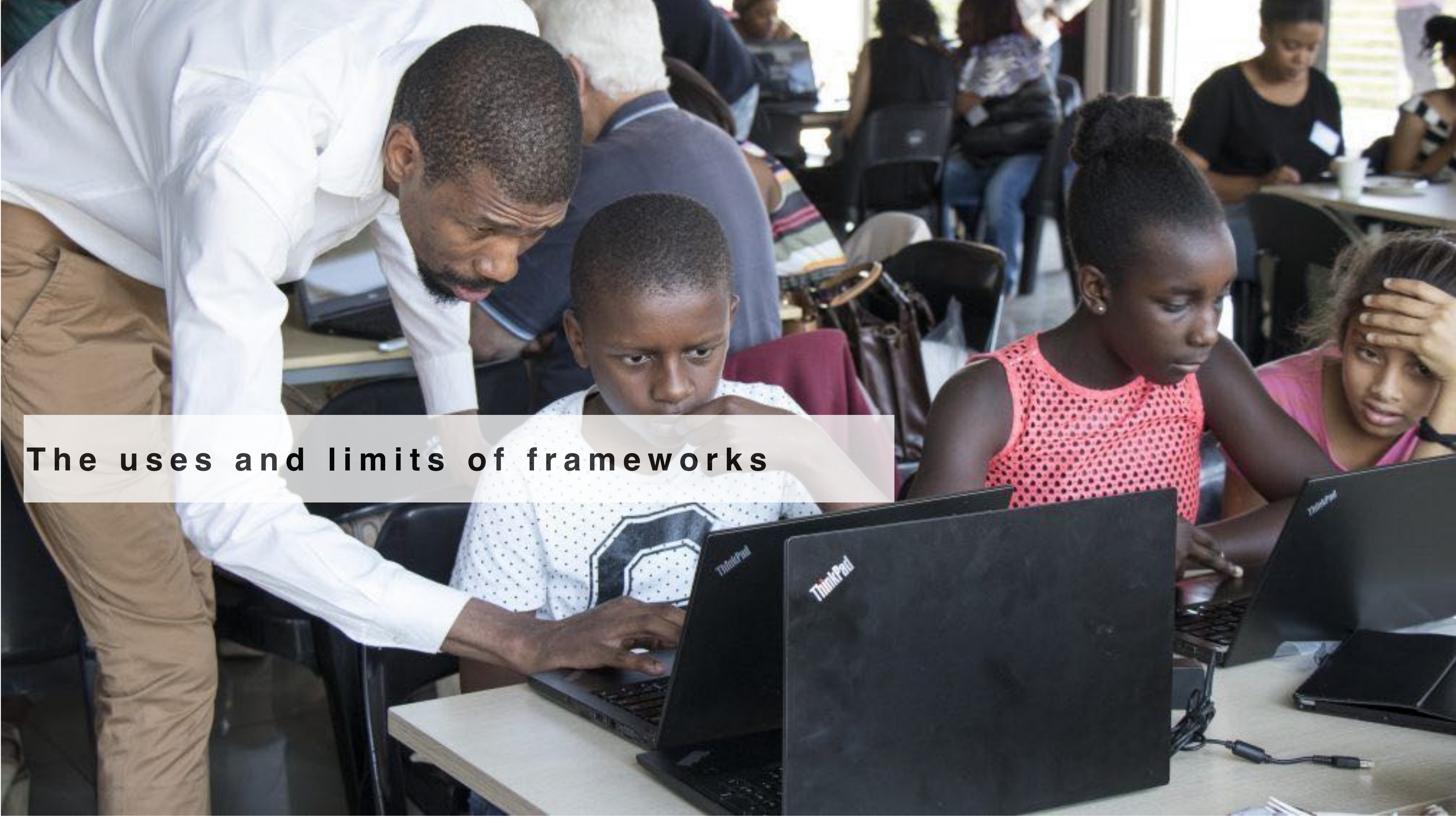
## Ways of thinking

Locally negotiated and relevant

Linked to sustainability and social justice

What kind of knowledge matters (here/now)?

What kind of future do our students want,  
and can we prepare them for?



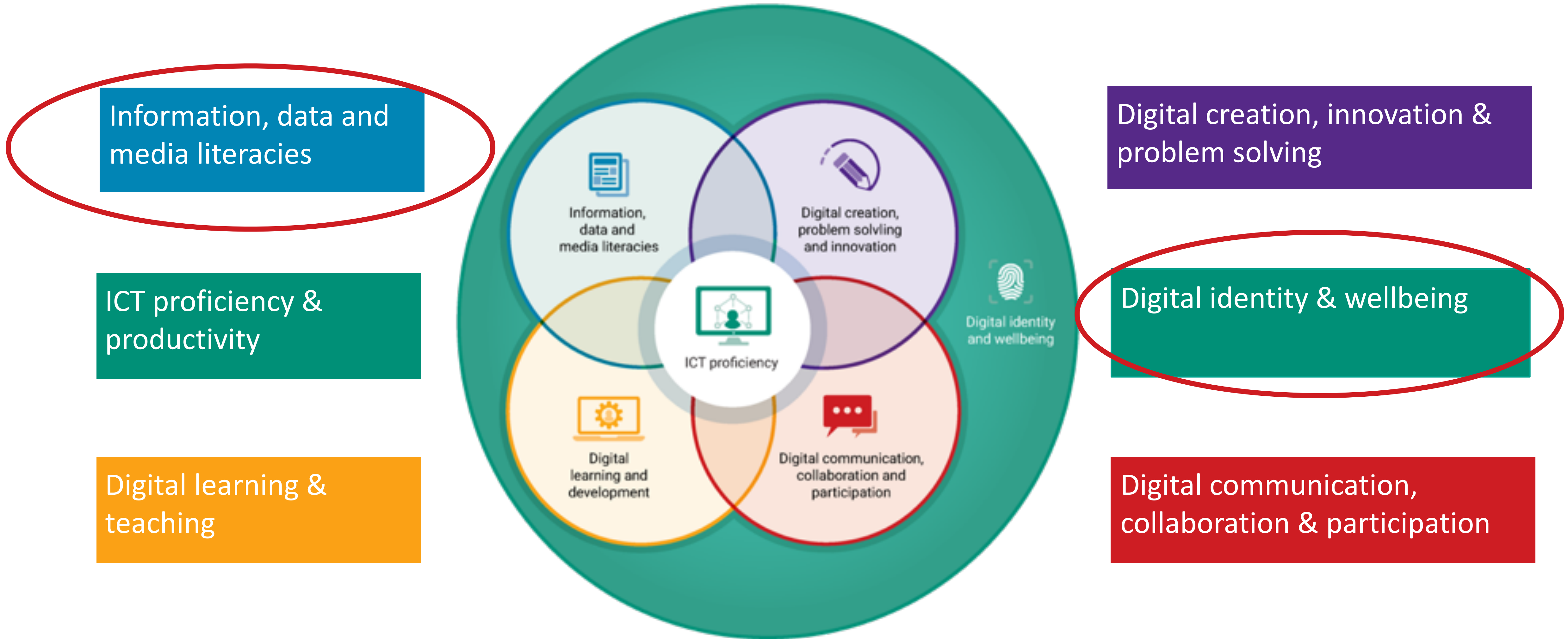
## The uses and limits of frameworks

# capability frameworks

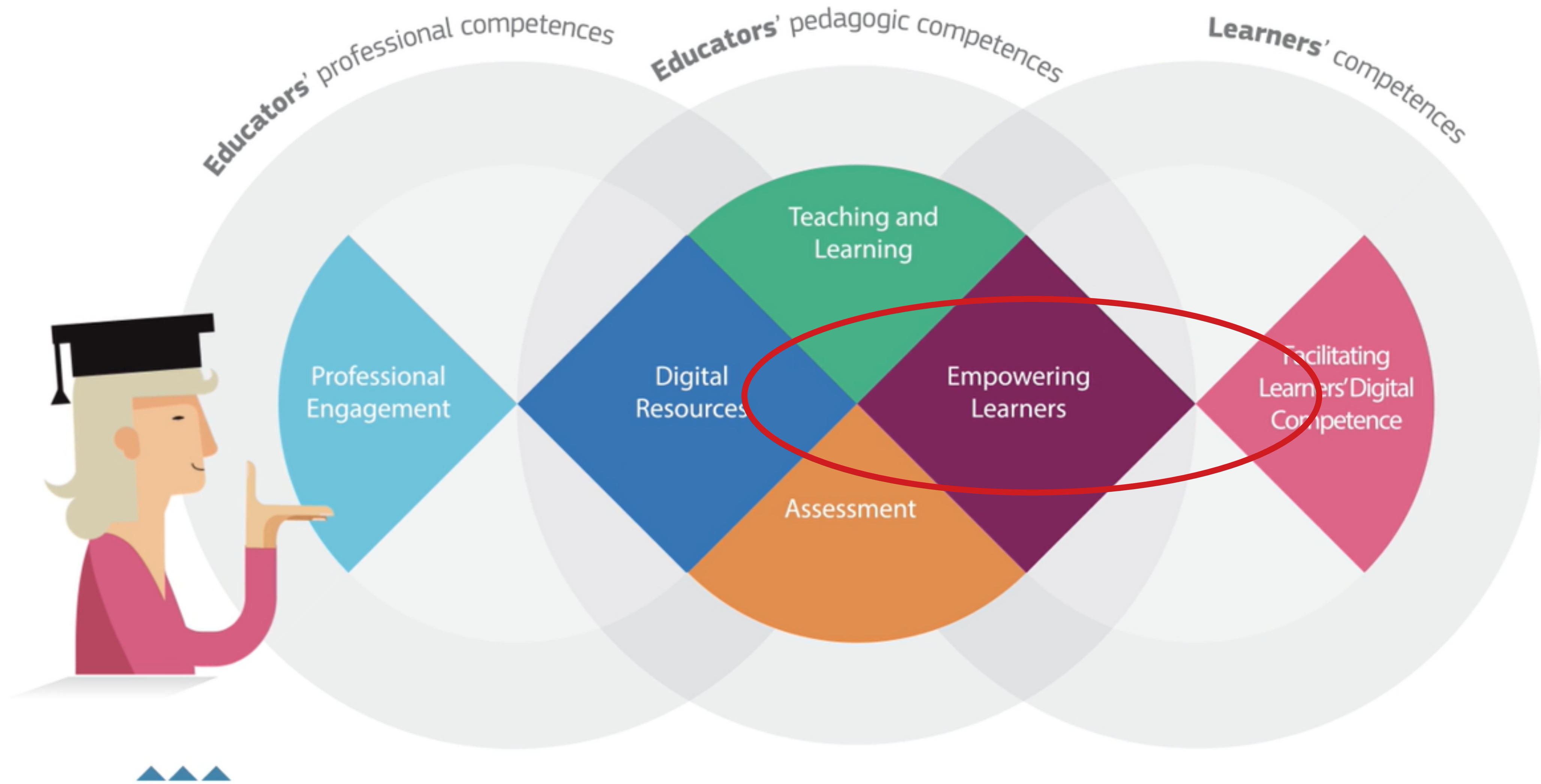
## A multitude of frameworks



# Focus on learners



# Focus on teachers



EU DigCompEdu framework

# Tools for self-assessment



Critical digital activities

# Shared curriculum resources

Board Critical digital activities #1 Workshops Free

**Activities used in the curriculum**

- Classify and sort (1 comment)
- Get creative with data (2 comments)
- Moving images (2 comments)
- Map layers (1 comment)
- Wikipedia editing (or any public wiki) (1 comment)
- Writing studio

**Activities for free-standing modules**

- Scavenger hunt
- Who knows you best?
- News hound
- Follow the things
- Debating points
- Interview an expert
- Digital story telling

**Module 1: Developing Digital Identities**

This module addresses ways of working with the digital tools and networks to which you have access in your contexts in order to enable you to create and manage your own online presences and footprints, and to exercise control over your expression of this digital identity (or identities). By implication, this involves negotiating pathways within contexts.

[VIEW MORE](#)

# global agenda

## A global agenda

*“Skills transform lives and drive economies. What people know and what they do with what they know has a major impact on their life chances.”*  
William Thorn, OECD (2014)



United Nations  
Educational, Scientific and  
Cultural Organization





OECD / PISA

# International reports, league tables



PISA 2018 Results

Programme for International Student Assessment

## **21st-century Readers** **Developing literacy skills in a digital world**



Andreas  
Schleicher

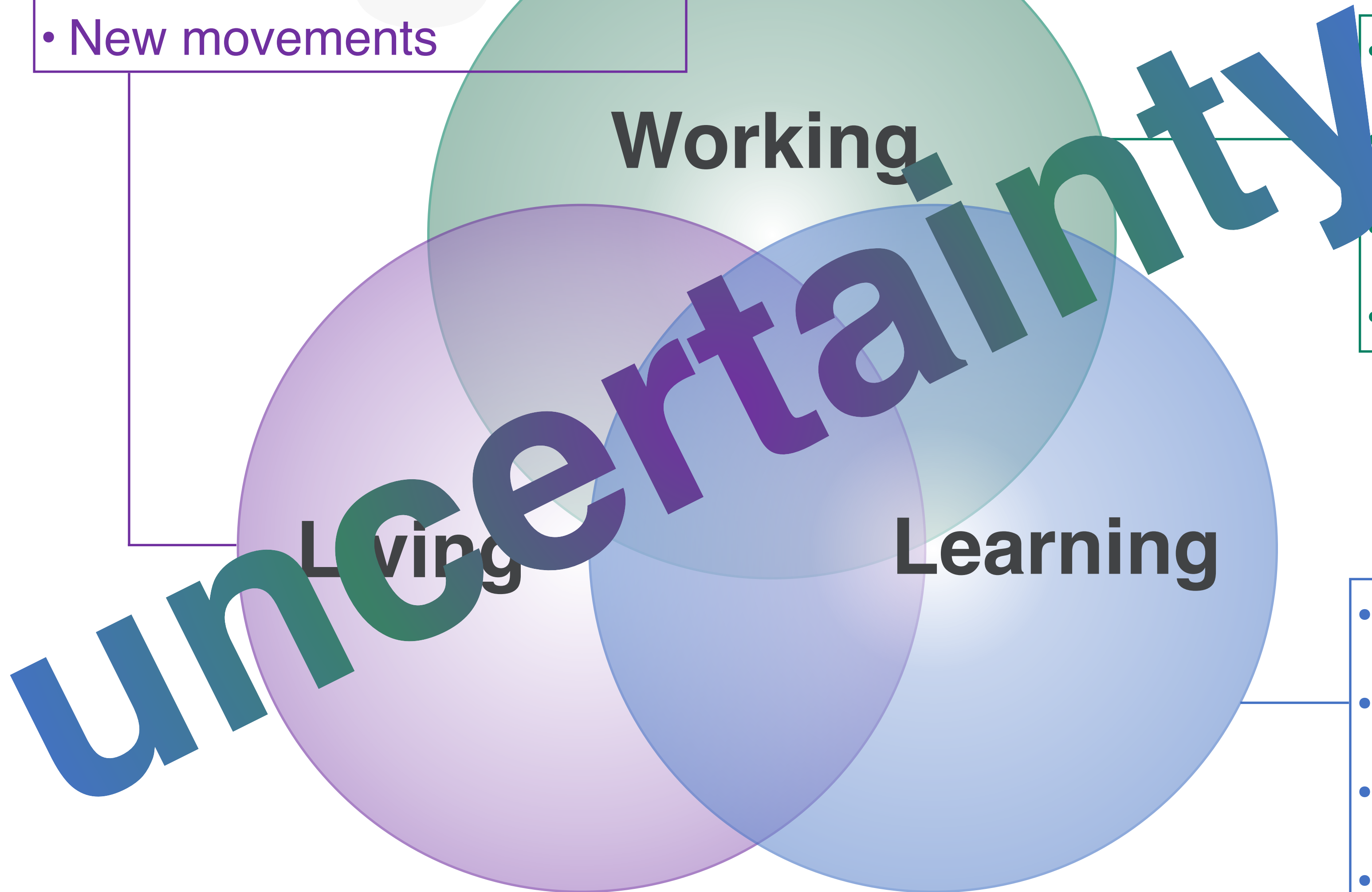


# Digital capabilities 2021

- Global shocks (pandemics, climate change)
- Social resilience
- New movements

- Automation including cognitive
- AI and machine learning
- Globalisation, casualisation
- New forms of resistance

- Information super-abundance
- Highly persuasive media
- Lifelong demand for skills
- New community initiatives





**Elements of digital capability:  
humans thinking with machines**

digital

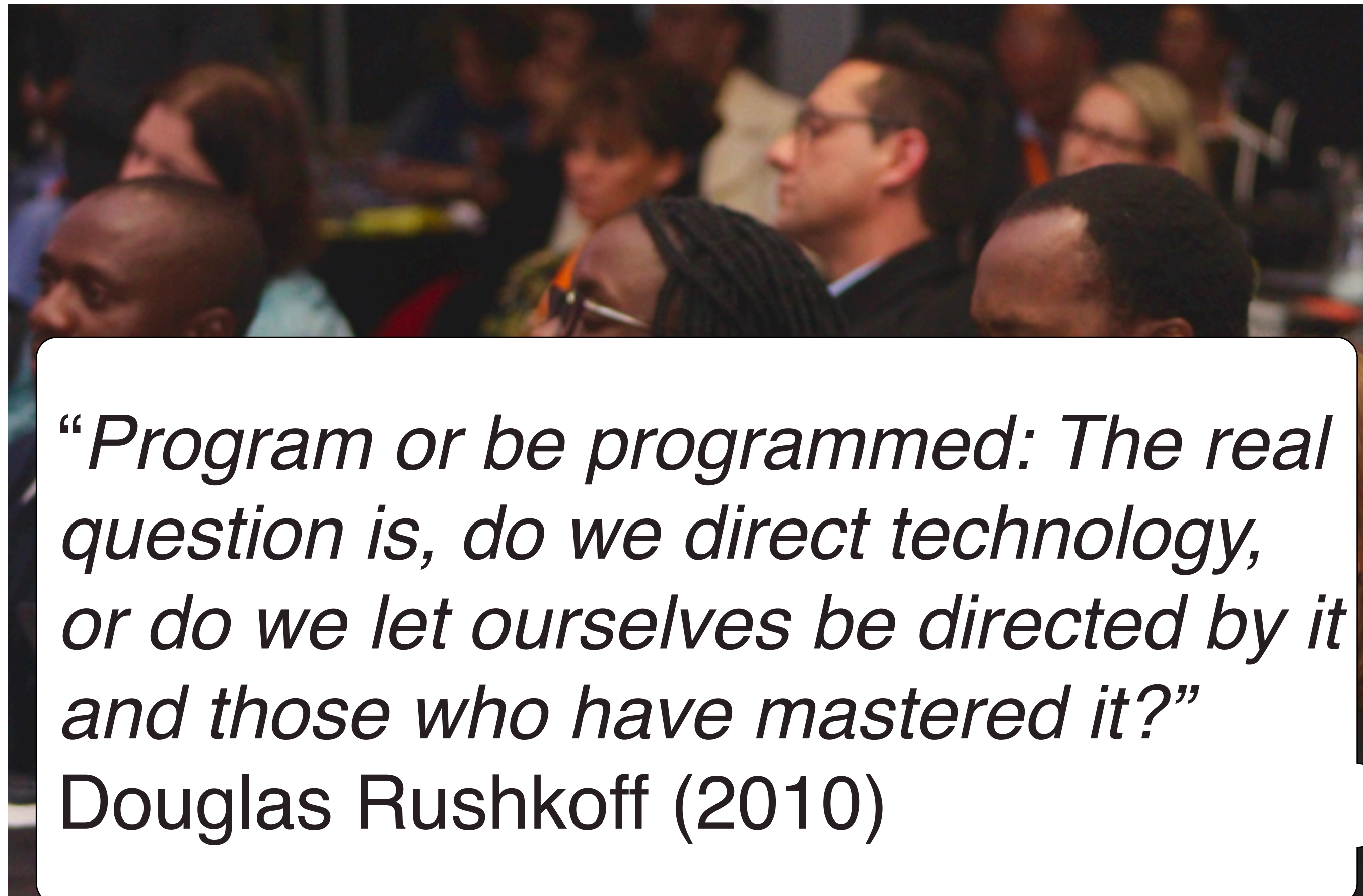
thinking

**How should we  
think now?**

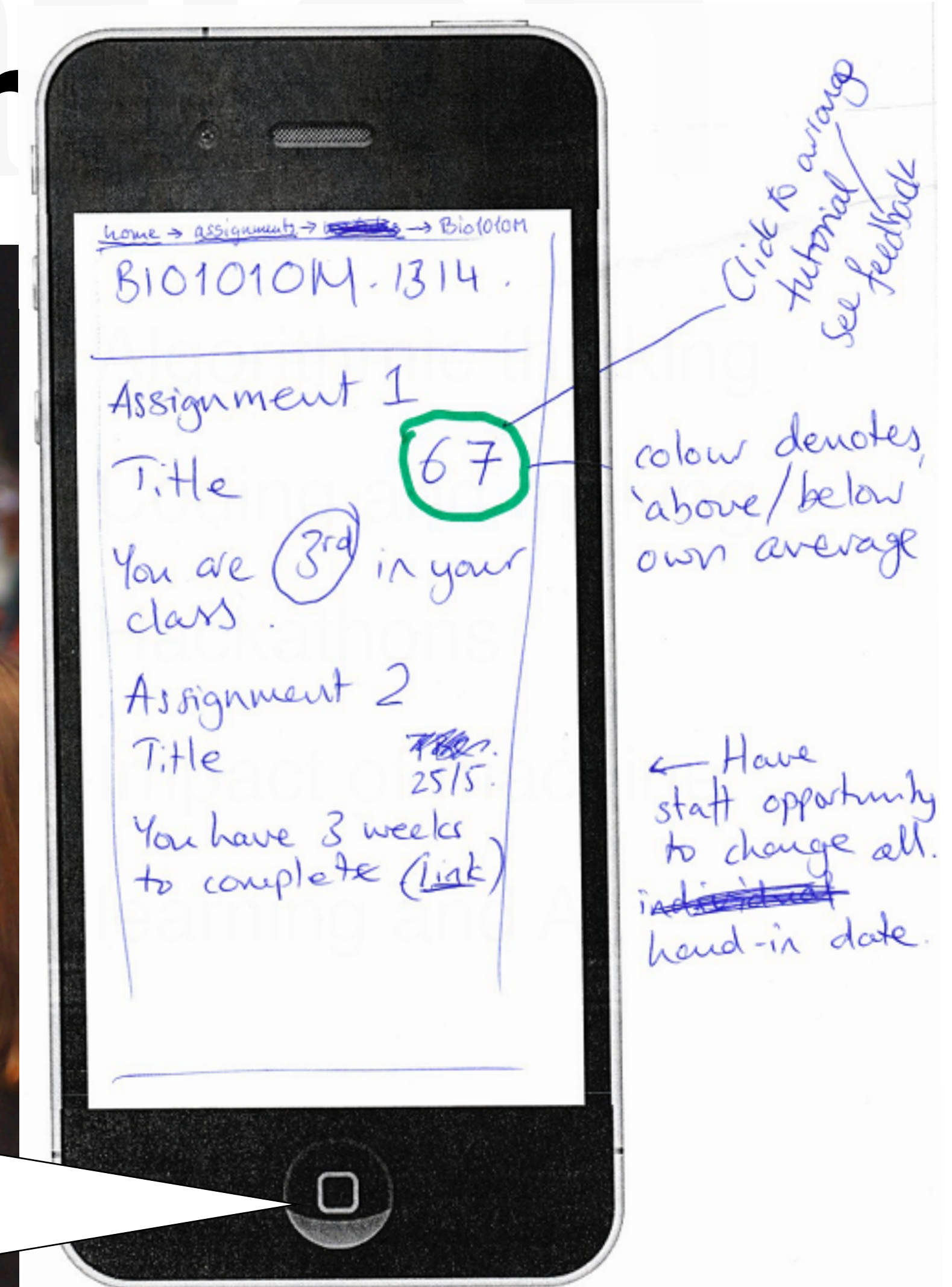


HOW WE THINK NOW

# Computational third



*“Program or be programmed: The real question is, do we direct technology, or do we let ourselves be directed by it and those who have mastered it?”*  
Douglas Rushkoff (2010)



HOW WE THINK NOW

# Data-based thinking



- Human / non-human, quantitative / qualitative analysis
- Visualise, present and persuade
- ‘Seeing’ patterns in data
- Choosing how personal data is used
- Understanding bias and privacy risks

HOW WE THINK NOW

# Data-based thinking



*“We need people who can work with data, drive the tools, write code and manipulate the data. But we also need people to be able to critique the use of data, understand its constraints and its impact on society.”*

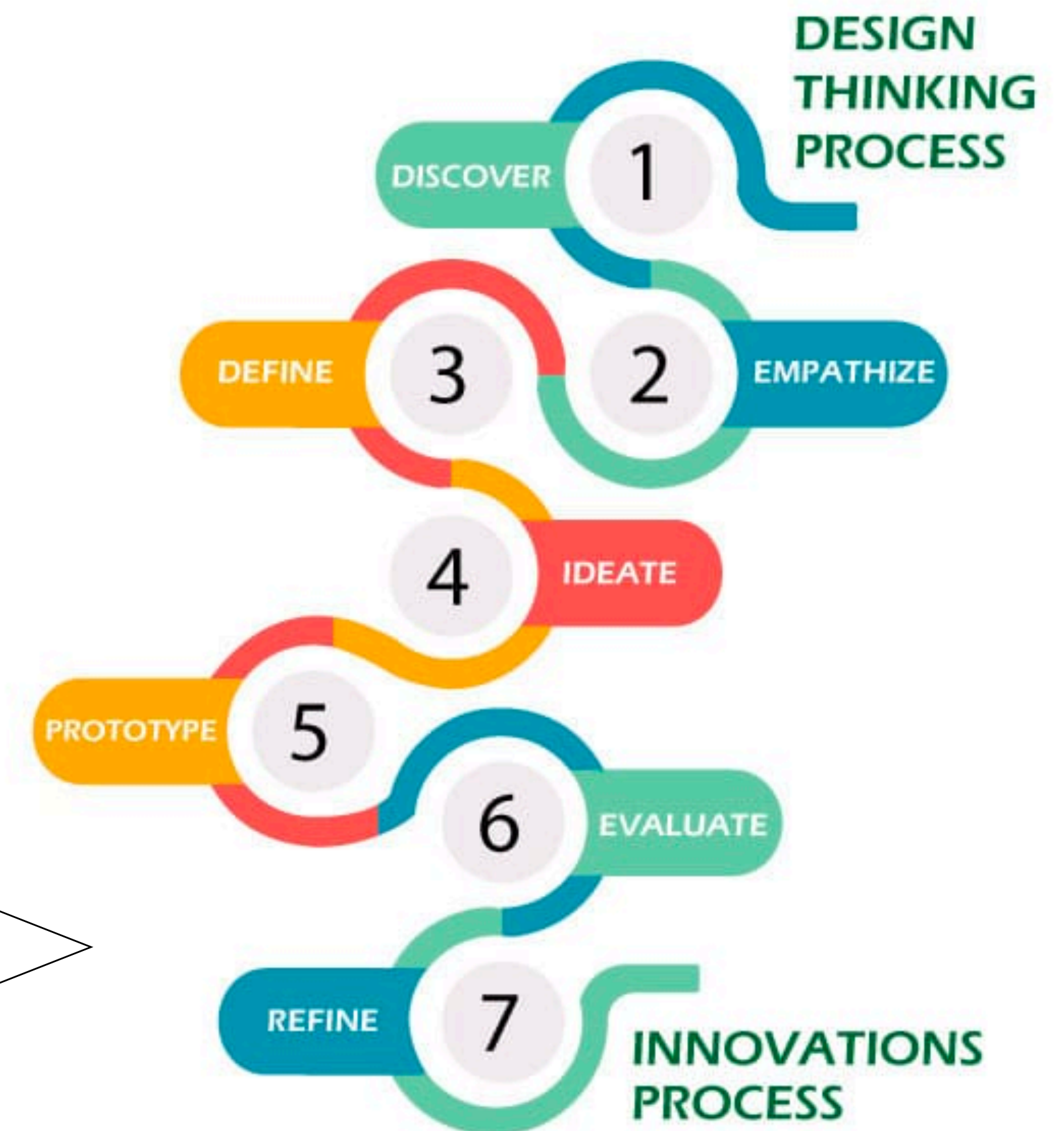
Jeni Tennison, Open Data Institute (2020)

HOW WE THINK NOW

# Design thinking

- Learning through making
- Solving real-world problems
- User focus
- Collaborative process

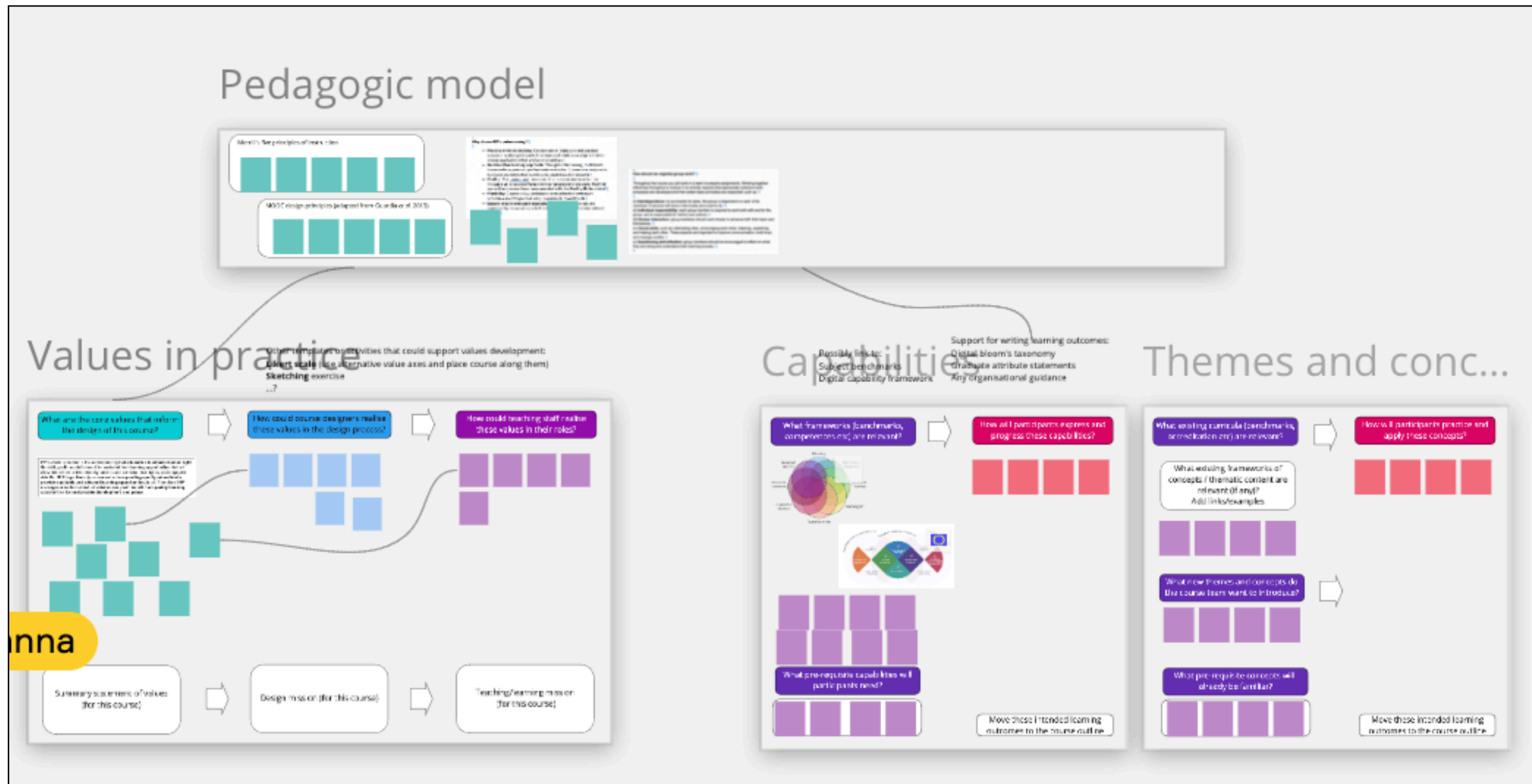
*“Design is the new Philosophy”*  
Vu Quan Nguyen Masse (2016)





HOW WE THINK NOW

# Design thinking



HOW WE THINK NOW

# New media for thinking

A new culture of making?

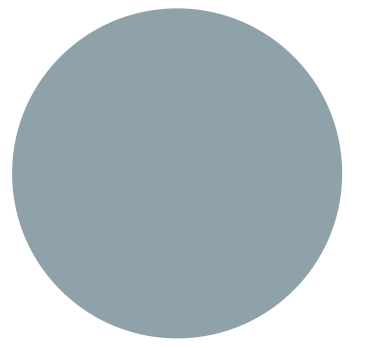
A new oral culture?

Writing no longer privileged

*“Shall I express this with sound or music? Shall I say this visually or verbally?”*

Gunther Kress, *Multimodality* (2001)





HOW WE THINK NOW

# Immersive thinking



*“It just overtakes your body, you’re captured by it. It taps into the reptile part of your brain as well as the frontal cortex and all your gravity systems. You’re really absolutely inside it.”*

Douglas Coupland (2016)



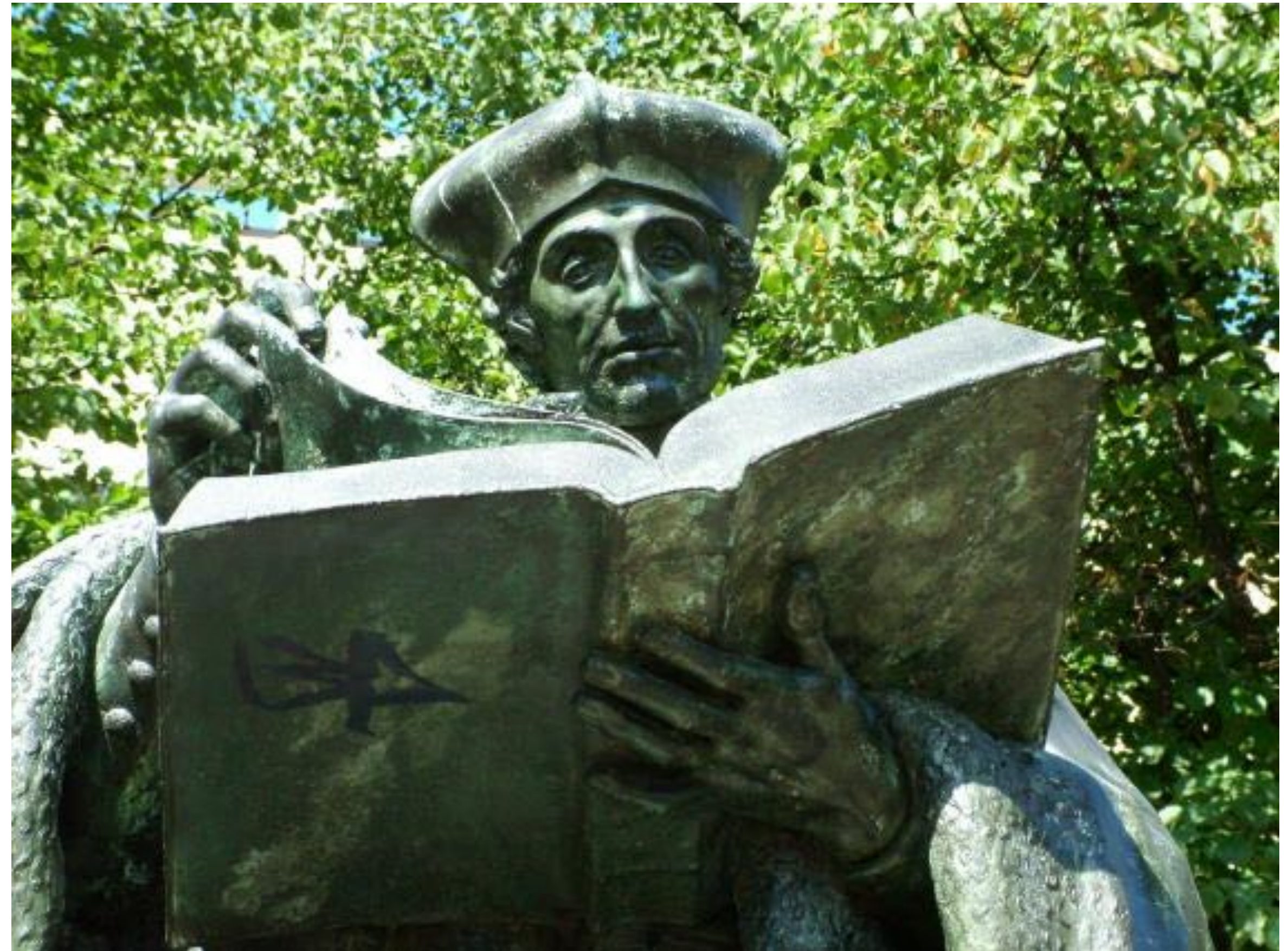
**Critical capabilities for the future**

# digital thinking

## How should we think now?



CC-BY Daniel Oberhaus (2018)



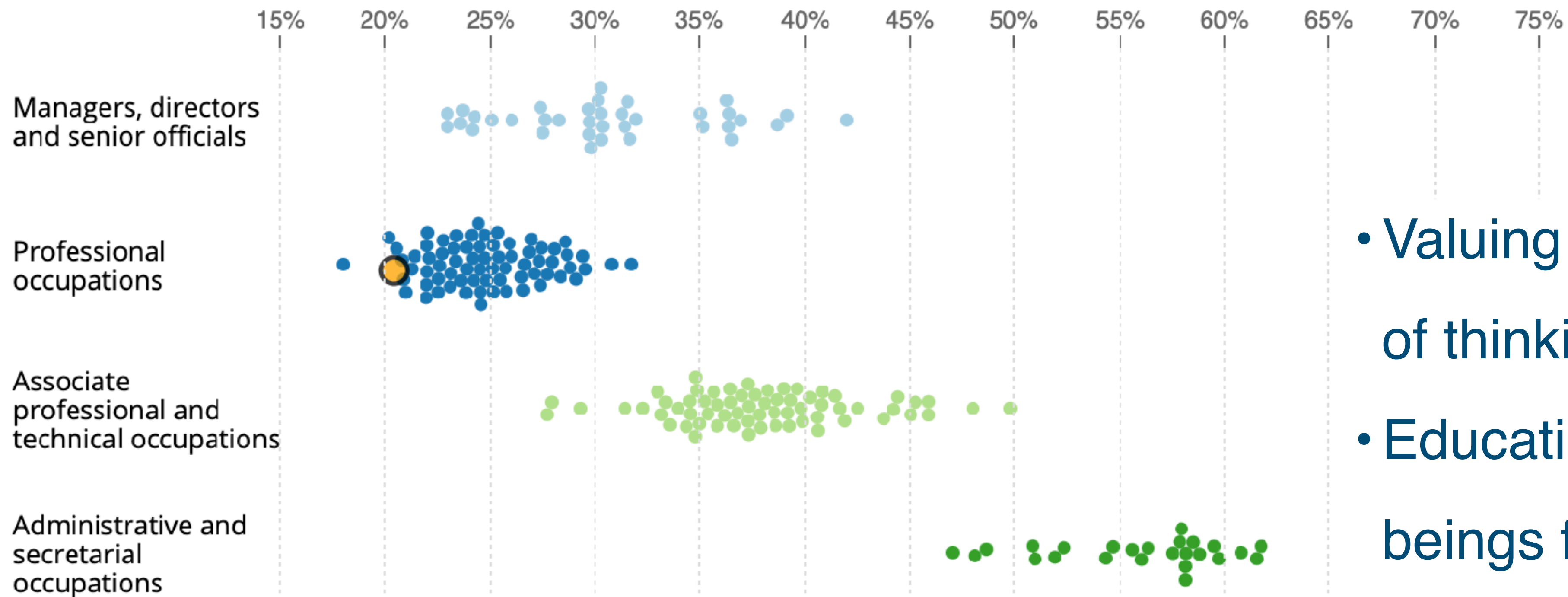
# values

## Value the human

Secondary education teaching professionals



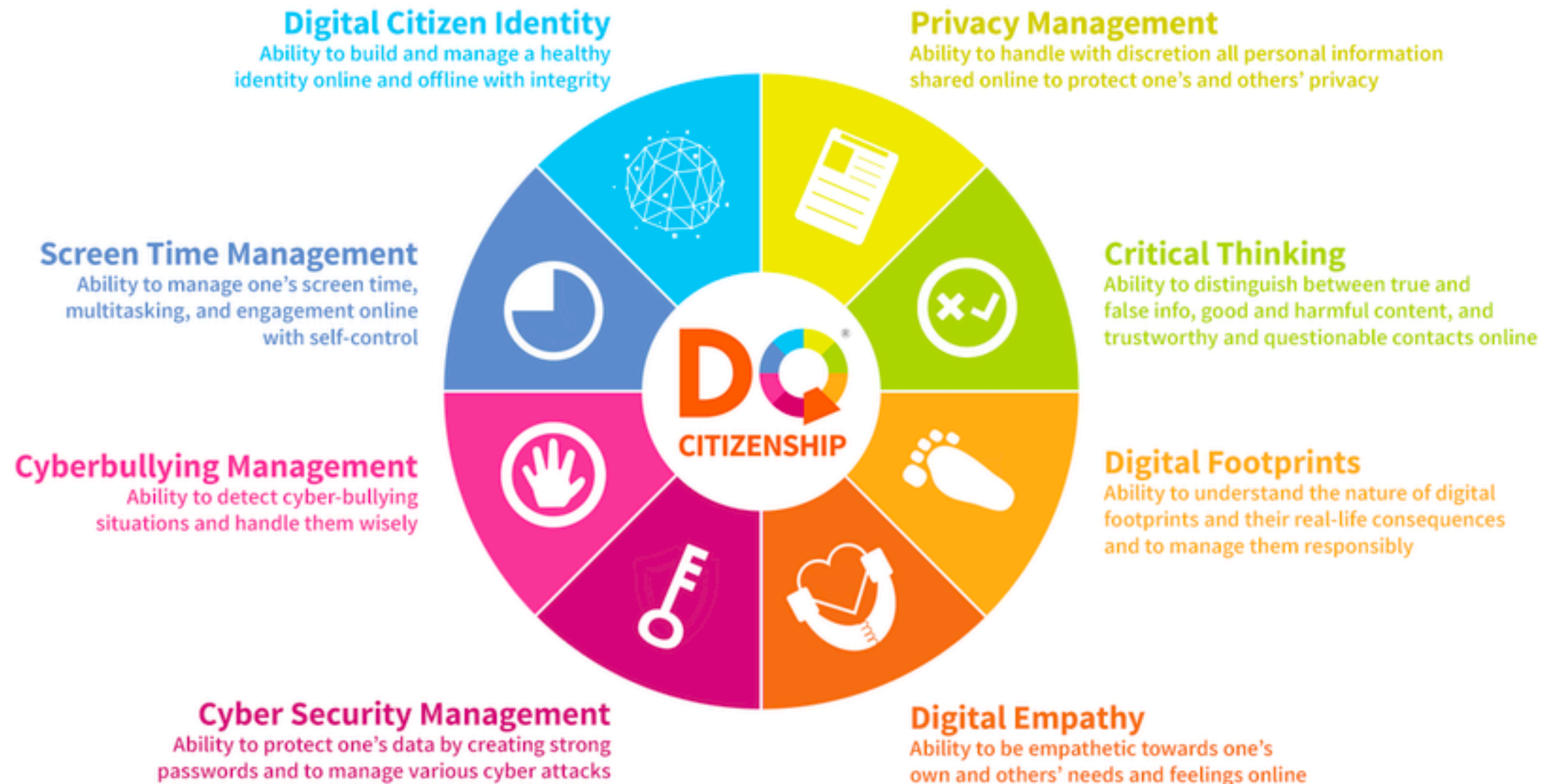
**20.61%** of jobs at risk from automation



- Valuing human modes of thinking
- Educating human beings for human jobs

# values

# Focus on wellbeing



# Values

# Pedagogies of justice and care...

## 2. Social Pedagogy

Curriculum outside  
the classroom:  
Reflexivity, pedagogy  
built on relationships  
and social justice

Teaching/ learning/  
participating from areas of  
knowledge and interest



All educational institutions teach  
students in community

Formative Assessments



... and critique



# futures thinking

## What kind of future?

- *“The university [is] the institution that links the present to the medium and long term through the **kind of knowledge and training** it produces and through the privileged public space it establishes dedicated to **open and critical discussion**”*
- De Sousa Santos (2006)

Siyaphumelela Conference June 2021

# Over to you...



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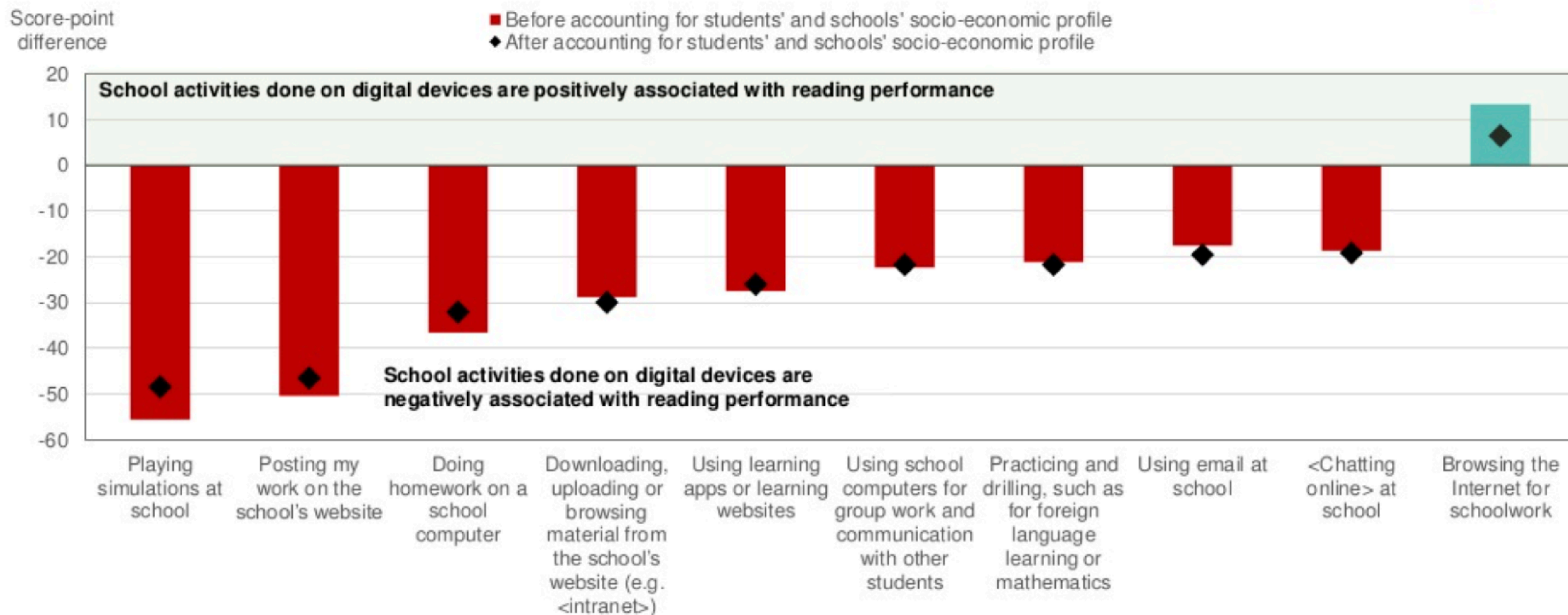
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## Relationship between reading performance and the type of school activities done on digital devices

Score-point difference in reading between students who reported using digital devices for the following activities at school compared to those who reported that never did, OECD average

Fig 6.13



# ... and critique

