

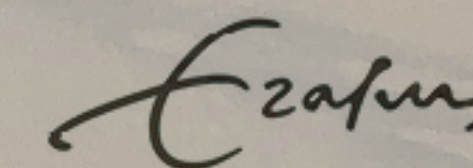
# CEL Research Digital Education and Learning 2019-2024



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Leiden  
The Netherlands



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## 12.00 pm - Walk in, Lunch, EdTech Startup market and Research Posters

Grab a sandwich and learn more about current research and EdTech applications in the field of education and learning.

## 1.00 pm - Welcome and presentation

### CEL's Strategic Plan 2019 - 2024

Meet our scientific director Marcus Specht and hear all about the CEL strategic plan 2019-2024

<- here we are



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## 1.30 pm - the Henk Dekker Award nominees

The Henk Dekker Award honours the most successful education innovator within the Leiden-Delft-Rotterdam community. This years nominees are Annoesjka Cabo, Marc Cleiren and Rolf Hut. They will each tell you more about their innovative idea in a short Ted Talk. Rolf Hut is unable to join us, but has made an interesting video to shine more light on his innovative project.



**Dr. Marc Cleiren** works as a deputy coördinator at the Honors College of the Faculty of Social Sciences at Leiden University. He is a researcher in the field of study success, giving meaning and stressful life events. He specializes in train-the-trainer teaching and coaching with an emphasis on talent development and motivation. Nominated for the didactic instrument [PPD - Personal Professional Development](#)



**Dr. Ir. Rolf Hut** is an assistant professor at the faculty Civil Engineering at the TU Delft. He is known for his McGyver like approach to solving scientific problems. His research covers the entire spectrum of hydrological data: sensor design, processing of data streams and incorporating data in models for predictions. Nominated for his innovative courses [Design Engineering for Physicists 1 and 2](#)



**Dr. Annoesjka Cabo** is Director of Interfaculty Teaching at the TU Delft. In this role she is committed to professionalising lecturers and to matching mathematics teaching to the needs of the different faculties. Moreover her ambition is to successfully implement the innovation project, while searching for efficiency in testing and involving students in educational math innovation. Nominated for [PRIME - Project Innovation Mathematics Education](#)



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## 2.30 pm - Henk Dekker award ceremony

The Henk Dekker Award will be awarded to one of the nominees, making him or her the most successful education innovator of this year!

## 2.45 pm - Break and EdTech Startup market and Research Posters

Refresh yourself and learn more about current research and EdTech applications in the field of education and learning.

## 3.15 pm - Workshops about CEL's key research topics

Join one of 5 workshops in the area of Learning Analytics, Mobile Learning, Digital Skills, Computational Thinking and Building Serious games. Register to the workshop of your choice at the registration desk at the beginning of the meeting.

## 4.15 pm - Panel discussion Innovation & Research

Our expert panel consists of Timo Kos (Director of education and student affairs and team captain of the SURF VSNU Acceleration Plan for Educational Innovation with ICT - TU Delft), Wilfried Admiraal (Chair of the research program Teaching and Teacher Learning - ICLON - Leiden University Graduate School of Teaching), Marja Verstelle ( Program Manager specialized in the field of New Media and Learning - ICLON - Leiden University) and Ruben Kranendonk (Focus Area Manager EdTech and startup trainer - Yes!Delft).

## 5.00 pm - Drinks. EdTech Startup market and Research



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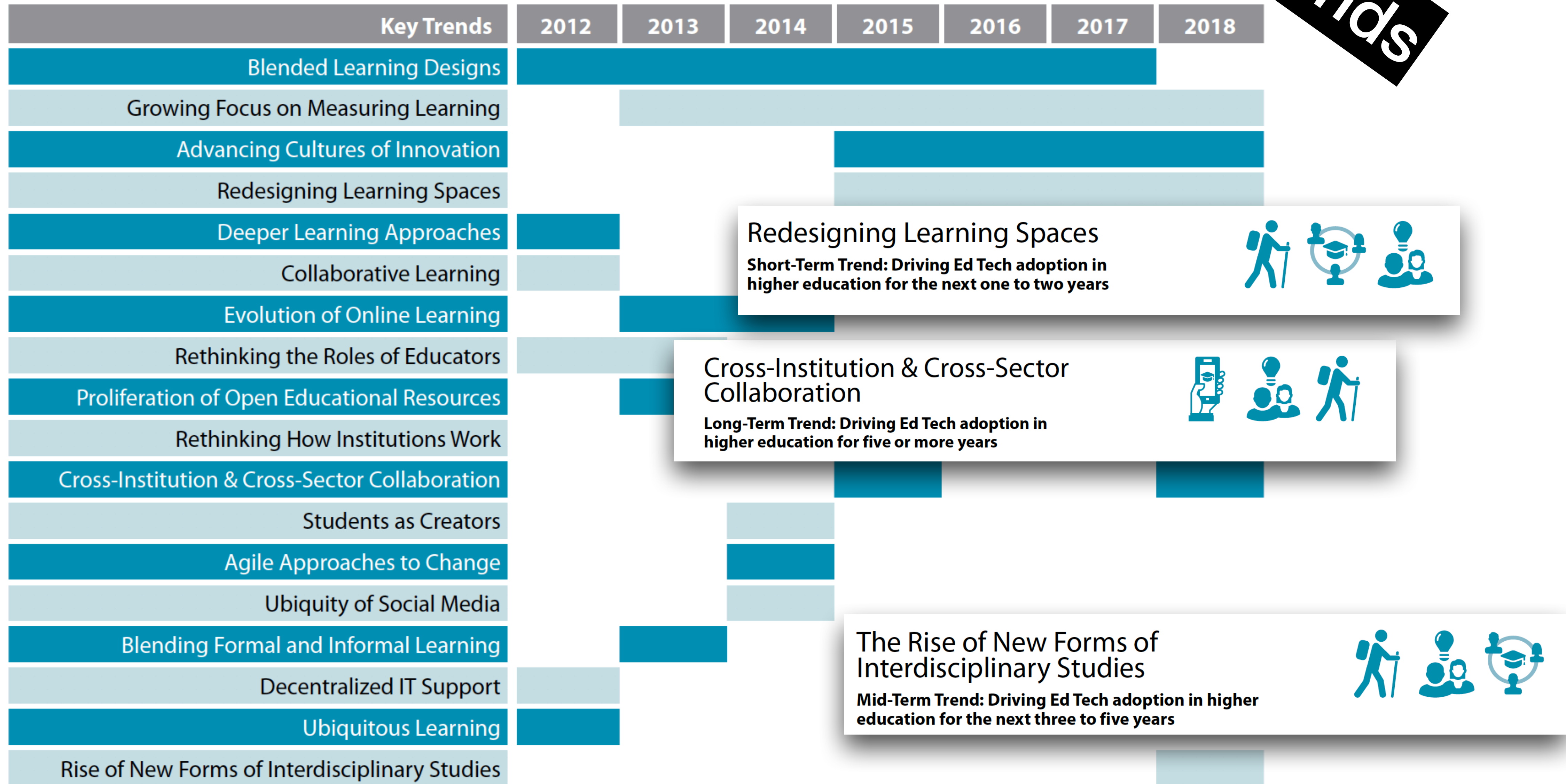
# What are the challenges



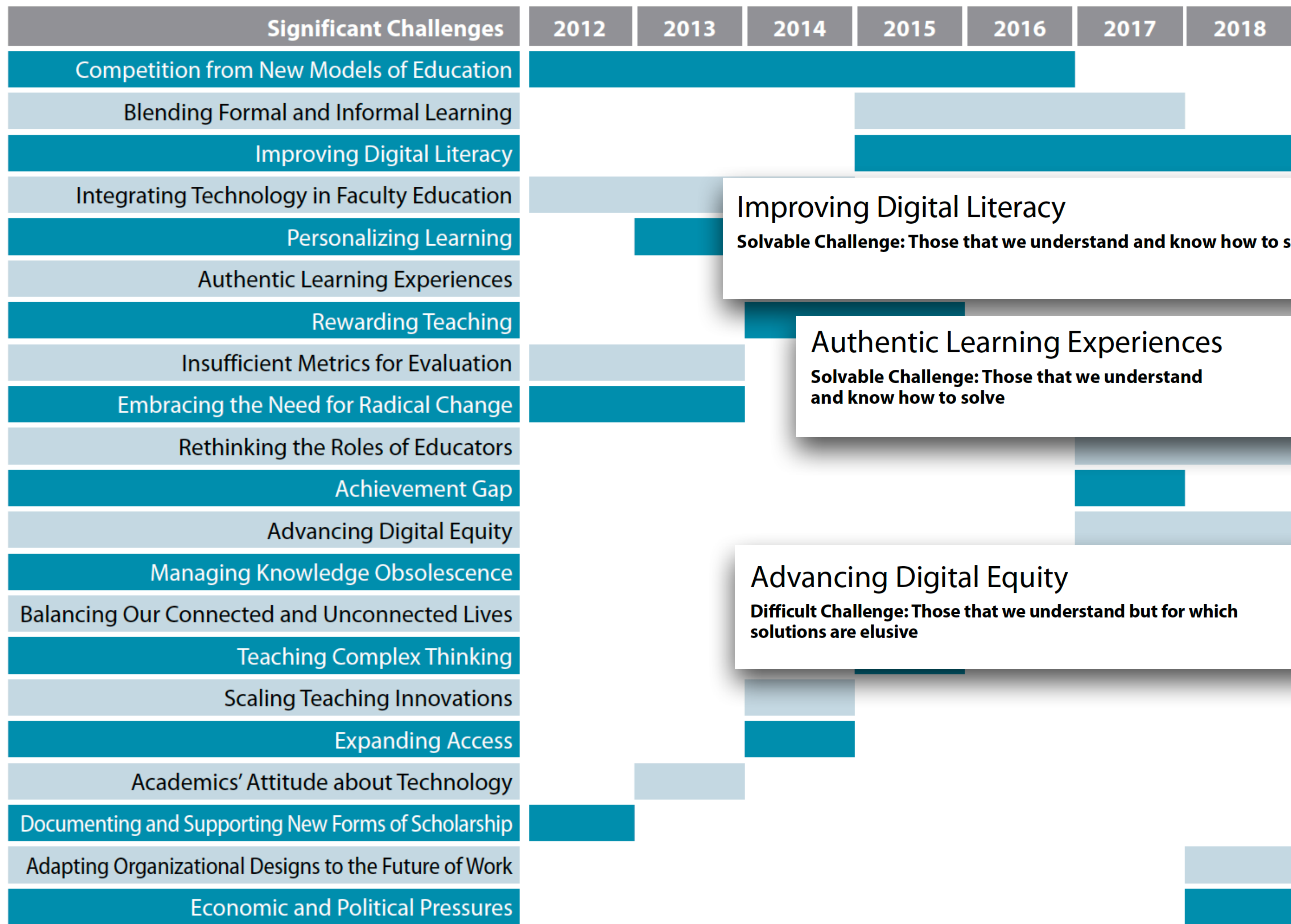


# Seven Years of the NMC Horizon Report Higher Education Edition


**Trends**




# Challenges



**Improving Digital Literacy**  
**Solvable Challenge: Those that we understand and know how to solve**



**Authentic Learning Experiences**  
**Solvable Challenge: Those that we understand and know how to solve**

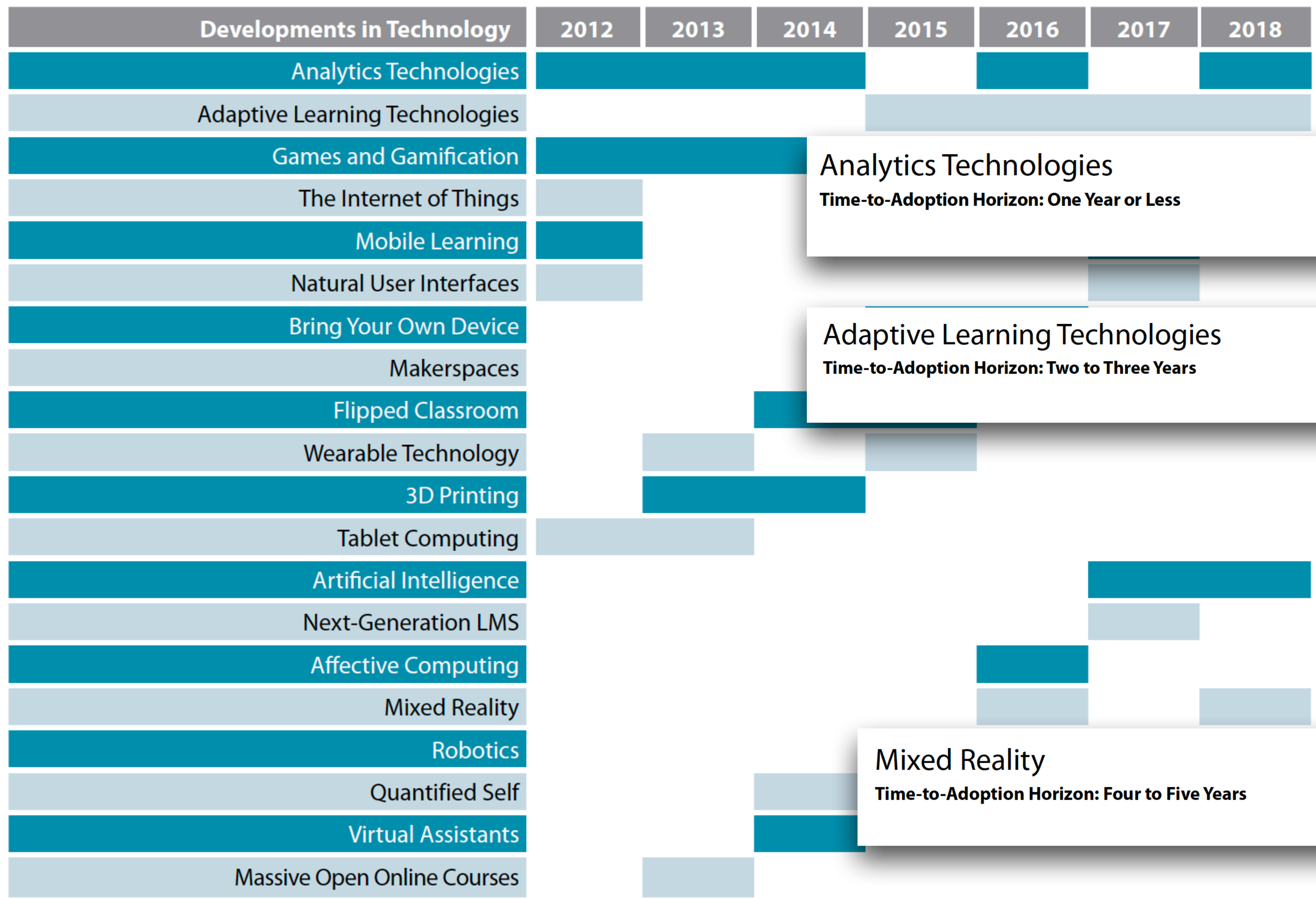


**Advancing Digital Equity**  
**Difficult Challenge: Those that we understand but for which solutions are elusive**





# Technologies



**Analytics Technologies**  
 Time-to-Adoption Horizon: One Year or Less

**Adaptive Learning Technologies**  
 Time-to-Adoption Horizon: Two to Three Years

**Mixed Reality**  
 Time-to-Adoption Horizon: Four to Five Years



# CEL Challenges in LDE context

- Preparing students for solving societal problems and engaging in lifelong learning for *connecting education, innovation and research*.
- Educating intercultural and multidisciplinary competent students to responsible and aware citizens. Making responsible use of digital means to solve societal problems.
- Develop new forms of inquiry-based, collaborative, authentic blended learning scenarios for campus education and create a living education lab
- Personalised learning and education while scaling up and not loosing quality of education.



# to change teaching and learning

High Dropout in  
Massive Online  
Education

Little effects of  
technology in meta  
studies

Lab studies and  
successful pilots

Limited Scalability of  
blended designs

High additional  
workload for  
lecturers

Motivation and  
Curiosity

Deeper Learning

Scalable Designs

Blended Higher  
Education

Efficient Assessment

Efficient Teaching/  
Mentoring





How can  
**evidence**  
help?

Evidence = Proof, Testimony, Signs



# Method

- Technology is changing so fast so we need research in practice to shape while we understand, **Design-Based Research, Action Research**, “The active practitioner as researcher”.
- Shaping DEL is a **multidisciplinary endeavour**, learning science, computer science, educational science and domain of application need to work together!
- **Evidence can be manifold**: I have seen it works!, Several students used it successfully!, An expert said it is better than everything!,  $p=0,003$  significant difference in student knowledge!



# What Evidence ?

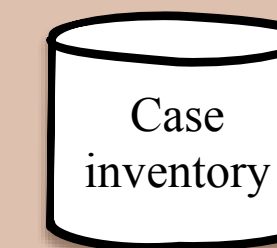
- Desktop Research, Qualitative Studies and methods

- Contextual Analysis, Participatory Design, End-User Prototyping

- Agile Methods of Development, Lab studies, field studies, formative evaluations

- Summative studies, effect studies

Results

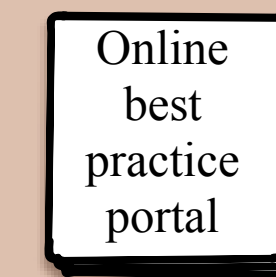


Case  
inventory



Literature  
Review  
Publications

**Cases, Analysis, State of the Art**



Online  
best  
practice  
portal

**Requirements & Contextual Factors**



Showcases  
of start-up  
technology

**Research Prototypes, Living Learning Lab**



Data and  
evidence



Publications

**Evaluation Studies & Publications**



A background pattern consisting of a grid of white circles arranged in a 4x7 grid, set against a gray background with a subtle grid pattern.

What developments do  
we want to  
**focus?**



# 10010110 DATA *Literacy*

- Digital Literacy: How do we use digital tools for learning?
- Information Literacy: How do we search information? How do we integrate existing information with our knowledge? How do we evaluate digital information?
- Data Literacy: How can we work with data in different disciplines? How can we train students to develop skills for using and manipulating data in efficient ways?
- Computational Thinking: How can we solve problems using computational approaches and means?



# tHe MoBiLE gEneRaTion !

- Nearly all information access is driven by mobile first, Media services are mobile first, Mobiles are the most personal tool for teenager and adults.
- In a step towards seamless and lifelong learning we need to use the mobile ecosystem to link collaborative, personal and metacognitive learning support.
- Mobile guidance, reflection, interactivity, communication, and seamless integration to put back focus on content.



# Augmenting you**R**eality

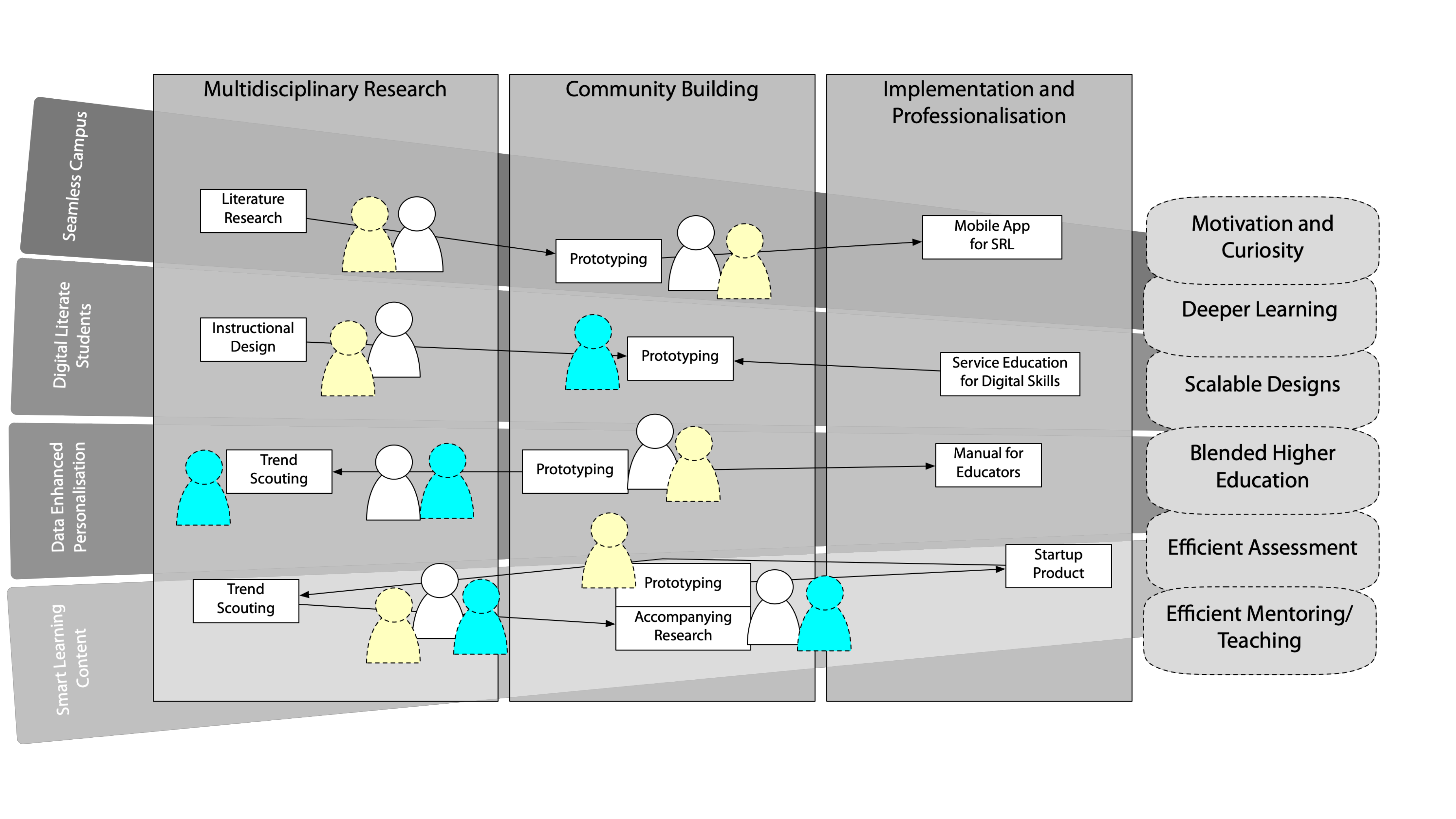
- Our environment is populated with analog and digital information. We live more and more in an augmented reality.
- Learning content is not anymore only in printed books it is in **GAmEs**, videos, social networks, a parallel reality so be **READY PLAYER ONE**.
- How can we combine classical media with new media so shape more interactive, collaborative, and personalised media experiences?

# tnegiLEtNI

## Learning Enhancements

- Guidance in Learning: Recommender systems, Adaptive Systems, Personalised selection of
- Intelligent Dialogue Systems: as partners in learning, systems being taught by humans, towards scalable expert dialogue?
- Human-Robot systems as efficient problem solvers and training partners?
- Brain-Computer Interfaces ...





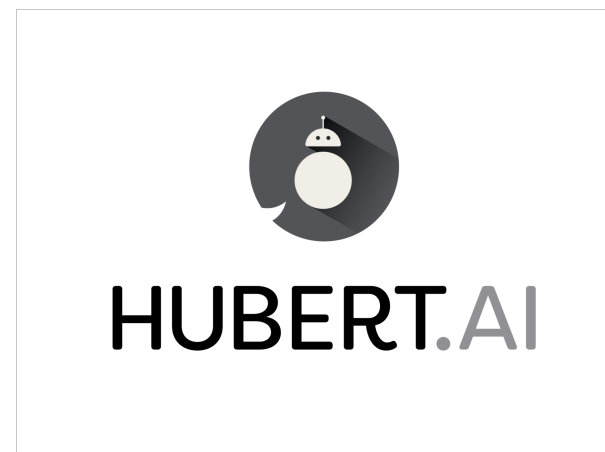
# EDTECH VALIDATION PROGRAM



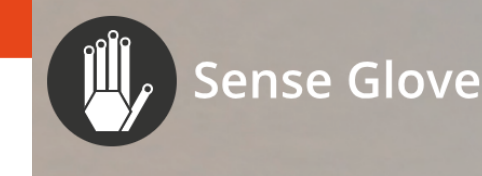
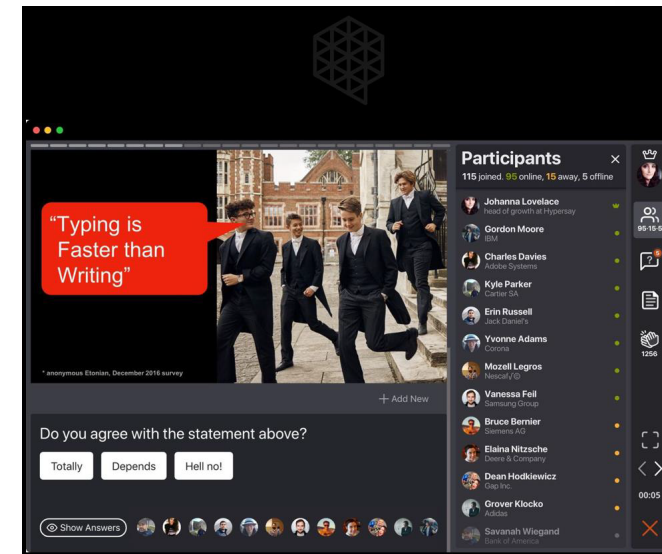
Community for *Erasmus*  
Learning & Innovation



<your Logo here>



ICLON



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- CEL drives and cooperates on multi-method multi-disciplinary research
- CEL links research, innovation, and professionalisation based on evidence
- CEL documents research outcomes and translates them to practice
- CEL initiates research driven by everyday educational challenges of LDE

web: [educationandlearning.nl](http://educationandlearning.nl)  
twitter, social media: #ldecel  
mail: [info@educationandlearning.nl](mailto:info@educationandlearning.nl)



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# *CEL Annual Meeting 2018*



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