Welten Institute
Research Centre for Teaching, Learning and Technology
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What do we do and how?

• **Innovation of Higher Education** at the OU and in the Netherlands
• The Research Centre in Europe for Teaching, Learning and Technology focusses on the core business of the OU that is Open Education
• Visitation in 2013 with 4.5 and 5 for highest scientific impact and quality
• New Research Program in 2014, updated in 2016 starting from strategic challenges of the OU, the Netherlands, Europe and beyond
Research Portfolio

• Differentiation in revenue streams
  – 1\textsuperscript{st} focus on strategic cooperation for impact (VSNU) and OU added core value (5 FTE)
  – 2\textsuperscript{nd} additional and seed funding for upcoming topics national and international funding (2015 = 1.7 mil)
  – 3\textsuperscript{rd} products and educational services, (2013= 600k)

• Innovation Roadmap differentiation
  – Short Term (MOOC, LA, Teacher Professionalisation)
  – Mid Term (Advanced Assessment Technology)
  – Long Term (Sensor-based and ubiquitous computing)
A long term perspective ...

Digital environment

- 1985: start onderzoek
- 1990: OU, excursies
- 1995: EML
- 2000: Blackboard IMS LD
- 2005: Recommender Systemen Sociale Leeromgeving
- 2010: OpenU, Mobiel, Games

Complex skills

- 1995: start onderzoek
- 2000: 4C/ID Model
- 2005: Competentiegericht leren, EVC
- 2010: gebruik MBO, HBO, militaire opleidingen, luchtverkeersleiding, etc.

Digital content

- 1995: start onderzoek
- 2000: IMS, SCORM
- 2005: eContentPlus, Pilotprojecten
- 2010: OER in HO, Digital Schoolbag, OpenU, Wikiwijs

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Theme 1: Biopsychology and Learning
Theme 2: Serious Gaming
Theme 3: Expertise Development
Theme 4: Assessment

Theme 1: New Learning Experiences
Theme 2: Seamless Learning Design
Theme 3: Open Learning Analytics
Theme 4: Open Education

Theme 1: Expertise Development
Theme 2: Career Development
Theme 3: Motivation
Theme 4: School Organisation and Learning Networks
Research for better online learning

• **Mobile** and **ubiquitous** learning: we apply mobile learning in different applications domains: culture, science, logistics, health. Wearables and Augmented Reality are new developments.

• **Game-based** learning and Gamification principles: We are currently leading the biggest European project on gamification.

• Learning **networks** and MOOCs: We coordinate the biggest Dutch project on research accompanying MOOC developments with a standardized evaluation framework.

• Learning **Analytics**: We use big data coming from all levels of tracks of the learning process. We recently have won research rewards at LAK 16.
A holistic view on online learning

- **Individual**: We research into bio-psychological and biographical variables of the learner and do this in long-term studies. We also want to better understand what real life-long learning is.

- **Assessment**: New forms of assessment are key to future training and learning solutions considering the investment and its potential.

- **Expertise**: We have a long standing tradition in the use of new media for expertise development and instructional design of new media and curricular structures.

- **Organisational Change**: Agile learning and "The new School": We work within and together with our main stakeholders = teachers and learners. We start from their complex problems.
Conclusions

• We are in the middle of a transition to digital learning and teaching, we have to manage this change and research the potential, risks, and opportunities.

• We believe in open innovation and search out opportunities to apply research to real world problems with application contexts.

• We follow an evidence based approach and do descriptive research, design-based research, qualitative and quantitative studies and also treatment interaction studies.