Learning and Cognition (Paul Kirschner)

- Effective Learning strategies
- Information skills
- Expertise development
- Brain, Lifestyle and Learning

1. Effective Learning Strategies

Cognitive load theory
and instruction
2. Information skills

- How learners search, find, assess and process information from the internet
- How education should be designed to support these processes.

3. Expertise development

Task execution, knowledge application and knowledge structures in professional domains

3. Expertiseontwikkeling

Expert modeling

4. Brain, lifestyle and learning

Example 1: Eye-tracking research

Movement and learning gains

4. Brain, lifestyle and learning

Cognitive load theory and computer-based testing
Example 2: Information skills and strategies

5. Mobile and ubiquitous learning content

Mobile media (Marcus Specht)

5. Mobile and ubiquitous learning content

6. Orchestration of seamless learning support

7. Situated learning experiences

5. Mobile and ubiquitous learning content

Ubiquitous access to learning support and distributed multi-formal learning content.

- Mobile Video and Audio Content (Youtube EDU, iTunes U), Cloud-based learning content, Mobile data collection and aggregation, eBooks and tablet content.

6 Orchestration of seamless learning support

Instructional design of nomadic and seamless learning support.

- Ubiquitous LMS access, Mixed Reality Games, Excursions and Field Trip systems, Mobile Augmented Reality, Mobile Learning Games, Object and location-based service access.

7 Situated learning experiences

Connect the Learning and the real World, context-aware learning systems, sensor-based learning support.

- Experience sampling apps, Sensor-based learning apps, Situated and ambient displays, Context-aware social media, Tangible and smart-objects for learning, Contextual Notification

Learning Networks (Peter Sloep)

Learning Networks are social networks for learning.

They are designed to blend informal learning and deliberate instruction in degrees that suit the learner’s needs best.

Social affordances for
- knowledge sharing
- knowledge creation
- professional development
- innovation enhancement.
8. professional learning

9. social network analysis

10. game theory, simulations

11. natural language processing

other research topics

- data mining and recommender systems
  - current PhD project: learning analytics
  - designing and developing various web-services
    - in the context of European projects (idSpace)

Immersive Media (Wim Westera)

12 Multimedia/Serious gaming: EMERGO
13 Multimedia 3D
14 Collaboration scripts (groupwork)
15 Sensors (emotion detection)
16 Chatbots (e.g. with students of Computer Science)
17 Open game technologies (e.g. Streetteam)
12 EMERGO game engine

13. Thermenmuseum Heerlen

EMERGO en 3D

OpenSIM, Open Wonderland

14 Collaboration scripts

- Staged collaboration games

15 Realtime emotion detection from video
16 Language technologies: chatbots

- Gartner: in 2013 15% of Fortune top 100 use chatbots
- FP7-call: artificial human tutors
- Bachelor students Informatica ‘Chatbots in het onderwijs’.
- Tekst analyse t.b.v. reflectie en formatieve feedback

17 Streetlearn project