Teachers as Designers of Technology-Enhanced Learning (TaD of TEL)

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Poster session overview

- Rationale and background (15 min)
- Poster introductions (15 min)
- Concurrent poster interactions (30 min)
- Discussant reflections (15 min)
- Plenary discussion (15 min)
Rationale for this session
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Learning

Change

Ownership

Design
Rationale for this session
Rationale for this session
The road to today’s session

- **ICLS 2012: Workshop**
  - Papers submitted as discussion seeds
  - Working groups formed on related topics
  - Convergence and divergence explored

- **Between ICLS 2012 and ICLS 2014**
  - Writing teams formed (from working groups)
  - Thematic papers developed (synthesis)
  - Online and offline collaboration (international)
  - Internal peer review process
  - Papers currently under review for special issue of *Instructional Science*
Posters: A thematic overview

- Change (inquiry learning) - Matuk et al
- Understanding (design) - McKenney et al
- Learning (professional growth) - Voogt et al
- Support (for design) - Svhila et al
- Ownership (participation to yield) - Cober et al
Posters: Brief introductions

- Collaborative Design as a Form of Professional Development
  - Joke Voogt, Therese Laferrière, Rebecca Itow, Alain Breuleux, Dan Hickey, Susan McKenney

- Technology to Support Teachers using Evidence from Student Work to Customize Technology-Enhanced Inquiry Units
  - Camillia Matuk, Marcia C. Linn, Bat-Sheva Eylon

- Teachers as Participatory Designers: Two Case Studies with Technology-Enhanced Learning Environments
  - Rebecca Cober, Jim Slotta, Esther Tan, Hyo-Jeong So, Karen Konings

- Designing for Teachers' Designing of Technology-Enhanced Learning
  - Vanessa Svihla; Richard Reeve; Ornit Sagy, Yael Kali

- Teacher Design Knowledge for Technology Enhanced Learning: A framework for investigating assets and needs
  - Susan McKenney, Yael Kali, Lina Markauskaite, Joke Voogt
Beyond today…

- Additional information online: https://sites.google.com/site/teachersasteldesigners/
- Special Issue *Instructional Science*
- Additional perspectives welcome
  - For special issue paper refinement
  - Establishing new collaborations
  - Questions for further research
  - ...
- Share ideas in plenary discussion following discussant reflections
Discussant reflections

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Overview

• Why important
• Similarity & diversity
• What have we learned
• Further research
Why important

Research evidence suggests that involvement of teachers in the design of curricula results in

- Effective professional development
- Sustainable innovations

Policy developments towards more decentralized curricula (e.g. Dinham, 2005) require teachers to be more involved in curriculum design

Example Netherlands

- Schools and teachers need to be put in the position to realize curriculum innovations to warrant up-to-date education (Advisory Report Educational Council in NL, 2014)
- The action plan ‘Teacher 2020’ acknowledges the need for teachers’ to develop ‘design skills’ (Leraar2020, 2011)
Similarities

• Aim for teachers’ participation in design
  – To contribute to improve practice and/or to their own learning

• Focus: Teachers (not on: e.g. students, designed artefacts)
  – Teachers’ expertise contributing to design (Cober et al.)
  – Teacher design expertise (Mckenney et al.)
  – Teacher learning from design (Voogt et al., Shvila et al.)
  – Support for the design process
    • Technological tools (Matuk et al.,)
    • Guidelines for support (Shvila et al.)

• Small scale case studies
Diversity -1

- Author teams from different cultural settings!
- Countries involved: USA, Canada, Israel, Tanzania, Ethiopia, Ghana, Singapore

- Provides a very rich set of studies – contributing to the ecological validity of findings across settings
Diversity -2

• Teachers
  – as individual designers (Matuk et al.),
  – as collaborative designers (Voogt et al., Shvila et al.),
  – as co-designers in multidisciplinary teams (Cober et al.)

• Design
  – as a resource/product for enactment (Shvila et al.; Cober et al., Voogt et al.)
  – as an activity during enactment (e.g. Matuk et al., see also Brown, 2009)

• Enactment: part (or not?) of the design process

• Technology
  – As a tool to support the design process (Matuk et al., Shvila et al.)
  – As the artefact resulting from the design process (Voogt et al., Cober et al.)
  – As a tool for scaling the intervention (= design process) (Voogt et al.)
What did we learn

• Organization of the design process
• Teacher agency in design
• Noticing how students are involved in the created the environments
• Aspects of teacher design expertise and how to foster it
• Change in beliefs about pedagogy, understanding of practice, and identity as designers (self-perception)
Further research

• Effects on
  – student learning
  – teacher learning (observable/transferable)
  – sustainability of innovations on the long run
• The role of technology
• Interaction with / impact on the context
  – school management
• Affordable approach
  – dependent on researchers?
  – cost –benefits