Designing and researching technology enhanced learning for the zone of proximal implementation

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Designing and researching technology enhanced learning for the zone of proximal implementation

Susan McKenney

Open University of the Netherlands/Twente University

susan.mckenney@utwente.nl

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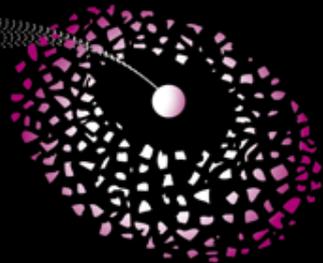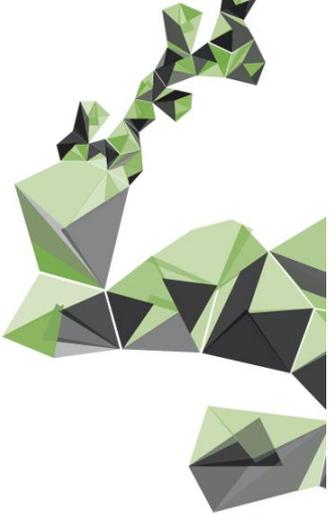
Purpose: A call to action

- Increase relevance and practical applicability

- State-of-the-art vs. state-of-practice

- Research and design must attend to current educational realities
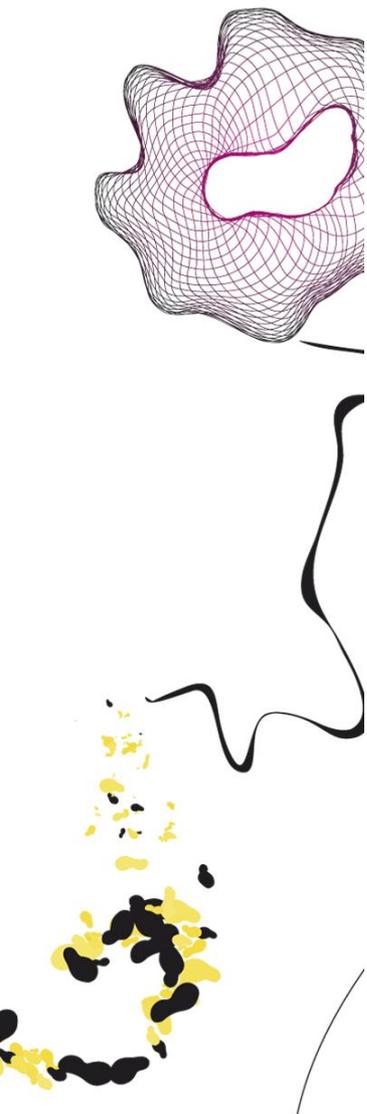
Current shortcming of TEL (design) research

- Insufficient attention to:
  - Curricular alignment
  - System unchangables
  - What motivates average teachers (not early adopters)
  - Levels of expertise available in the target settings
  - Pedagogy (instead of delivery)
  - Institutional issues (ROREs, politics, cultures, leadership, roles/responsibilities, etc.)

- Insufficient focus on:
  - Urgent issues
  - Developing solutions that are deemed relevant and needed by representative stakeholders
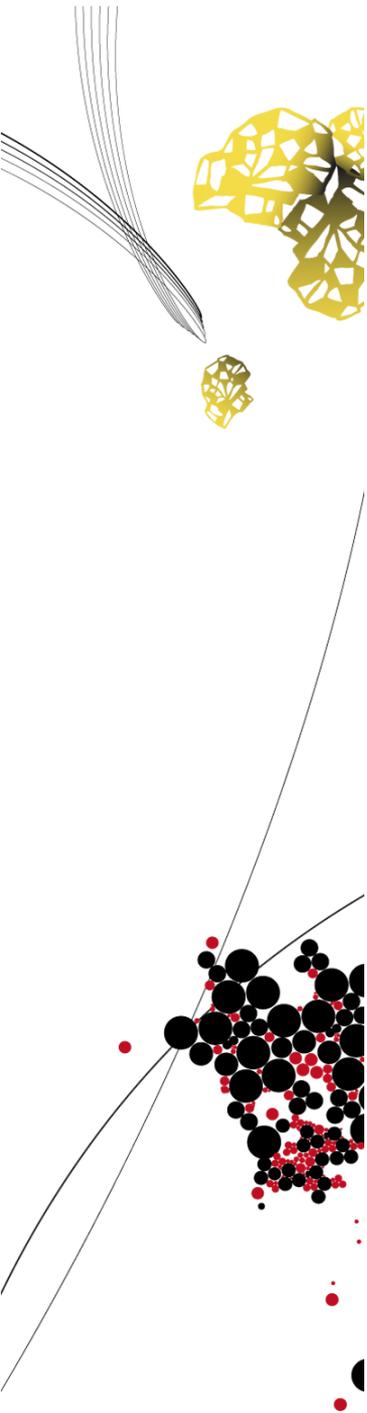
TEL research within the zone of proximal implementation

- *The zone of proximal implementation refers to the distance between what teachers and schools can implement independently and what they can implement through guidance or collaboration.*

- Begins with understanding everyday practice:

  - Representative/diverse teacher

  - Representative/diverse learners

  - Representative/diverse settings

- Gradually bridging from the current situation to the desired situation

- Planning for implementation scaffolds to fade and ownership/expertise to shift into the hands of those that will sustain innovation

Viable innovation characteristics at the zone of proximal implementation:

- Value-added

- Clear

- Compatible

- Tolerant

Methodological considerations

	Before design (needs/context analysis)	During design (prototyping and formative evaluation)	After design (summative evaluation)
Value-added (better than status quo)	Learning practices, problems, outcomes *in the baseline situation*	Learning practices, problems, outcomes *during use*	Learning practices, problems, outcomes *with all implementation scaffolds removed*
	Observation, learner work/assessments, document analysis, brief questionnaires (e.g. learning environment rating scales) to study enacted curriculum; focus groups and interviews to get teacher perceptions		
Clear (participants can envision their involvement)	Mindsets, habits and conventions within the classroom/school *in the baseline situation*	Mindsets, habits and conventions within the classroom/school *during use*	Mindsets, habits and conventions within the classroom/school *that are sustained or changed after the innovation*
	Interviews, observations, and logbooks to track how clearly professionals understand their role and how actively they engage in it		
Compatible (compatible with values, beliefs, surrounding educational context/system)	Values, cultures, beliefs, priorities, and contextual /system factors *in the baseline situation*	Values, cultures, beliefs, priorities, and contextual /system factors *that help or hinder implementation*	Values, cultures, beliefs, priorities, and contextual /system factors *that are sustained or changed after the innovation*
	Observation, interviews, document analysis to understand and track how alignment between the innovation and other determinants of implementation		
Tolerant (withstands the natural variation of actual use)	Actual behaviors of teachers and learners and reasons for them *in the baseline situation*	Actual behaviors of teachers and learners and reasons for them *during use*	Actual behaviors of teachers and learners and reasons for them *with all implementation scaffolds removed*
	Observation, interviews and document analysis to understand what teachers and learners actually do and why		
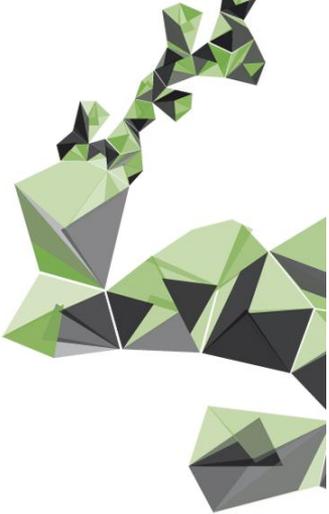
Discussion

- John Cook: How can a focus on teachers ever lead to pervasive ubiquitous learning that hooks into the agency of learner and new sites of informal learning?

- Other questions?

- …???