Activity centred analysis and design in the evolution of learning networks

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Learning, technology and design: architectures for productive networked learning

Empirical studies of ‘design for learning’

Analysis of learning networks
Learning, technology and design: architectures for productive networked learning

Research as analysis (of learning network) to create actionable knowledge for design

cf (networked) action research, participatory design, formative evaluation

Our distinctive emphases: design processes, complexity, role of representations in collective/participatory design
The apparent simplicity of early NL/CMC

‘Design’ rarely featured
(other than design of tech or general pedagogical principles/desiderata)

Pedagogy enacted through online discourse

Arrangements felt directly knowable

Analysis – mainly of message content
Analysing learning networks

≈ 20 learning networks (formal education; informal; some where learning is incidental)

How their architectures – the structuring of their key elements – supports valued activities and outcomes

The contrast with the 90s is not just one of scale, but also of complexity

From the ‘virtual classroom’ to the ‘learning city’ (Goodyear et al., 2015)
Architecture of the NALA network (Pinto, 2014)
Have our conceptions of design for NL been changing to reflect this growth in scale & complexity?

Are the tools, ideas and methods that were appropriate for ‘furnishing a virtual classroom’ adequate to the challenges of ‘city planning’ or ‘urban design’ ...?

... especially given the fact that most learning networks evolve through combinations of planning, improvisation and habit.

How can the various participants in a learning network (be helped to) become more capable of understanding the network and how it functions? How can they get better at shaping its future?
Activity centred analysis and design: tenets

- Activity is central ... what people are actually doing (thinking, feeling, etc) really matters – it is consequential
- Activity is physically, socially and epistemically situated
- Activity cannot be designed – it emerges [indirection]
- Design can lead to the creation of artefacts, places, divisions of labour, tasks etc that situate and influence activity, but rarely determine it. Design issues invitations.
- Activity can involve the (collective) reconfiguration of artefacts, tasks etc: it can cause lasting changes in the LN
- Design is distributed, but distributions vary between networks and over time
Design praxiology informs design epistemology

Design functions differently in different LNs, and over time. What counts as actionable knowledge (for design) depends on how design is done.

<table>
<thead>
<tr>
<th>Cyclical reset/redesign</th>
<th>Continuing (‘organic’) growth</th>
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<tbody>
<tr>
<td>Dramatic/revolutionary</td>
<td>Incremental</td>
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<tr>
<td>Outsider (imposed from on high)/etic/industrial</td>
<td>Insider/emic/vernacular</td>
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Caveats

Continua, rather than categorical differences
Empirical regularities (correlates; patterns of co-occurrence) rather than logical necessities
Representation and collective (re)design (1/2)

Challenges in the evolution of a LN where design solutions are not self-evident (including ‘wicked’ problems, where criteria for judging between solutions are not self-evident)

May require the invention of means of inquiry (methods of analysis and representation)

Three coupled processes:

- a shared commitment to action (skin in the game)
- use of structured discussion to create a shared (temporarily stabilised) conception of what action should be taken
- production of models/representations of problem(s) and candidate solutions (≈ how the network functions; how it might function better in the future), as resources for structured discussion

(Ison & Blackmore, 2014)
Representation and collective (re)design (2/2)

Choices can be made about representations in terms of how they are meant to function in a structured discussion, which is (in turn) being used by a team of people who are invested in, and committed to, taking some design action.

Particular appropriate in the context of ‘participatory design’ understood as a paradigm in which people are designing for their collective good, and as a practice in which joint inquiry and structured decision-making processes are needed in order to make progress with complex, even wicked, problems.

ACAD as a way of helping participants in an LN converge on ways of representing key aspects of how the network functions:

- broad brush (e.g. Carvalho & Goodyear 2014 book), or
- specific areas of activity & infrastructure seen as problematic (e.g. this paper - chaînes opératoire)
Design anthropology

The creativity of design is not found in “prefigured solutions to perceived environmental problems but in the capacity of inhabitants to respond with precision to the ever-changing circumstances of their lives … finding the grain of the world’s becoming … [and] bending it to an evolving purpose … opening up pathways rather than setting targets” (Gatt & Ingold, 2013, p145, our emphasis).

Underestimates the complexity of some of the binds in which people find themselves – traps people in a world they can directly sense

Analytic representations as tools for shared inquiry, sense-making and action rather than as claims to truth
Thanks, follow up:

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https://spacesfornetworkedlearning.wordpress.com

Carvalho & Goodyear (2014)

Carvalho, Goodyear & De Laat (2016)
New slides on: How students’ work on making various artefacts for their assessments in courses that prepare them for professional practice bridges knowledge learnt in university setting with knowledge work in workplaces.

The gist of our argument:

Professional expertise is inseparable from capacities to (co-)construct epistemic environments that enhance knowledgeable actions.

Such expertise is grounded in embodied, situated professional knowledge work.

Much of this work is done by (co-)creating epistemic artefacts that embody actionable knowledge.
Productive epistemic artefacts connect the object (‘why’ of work) and the thing (‘what’ of work) through action (‘know how’) and ways of thinking that underpin situated professional innovation (ie. epistemic fluency).

In learning, much of the value of the epistemic artefacts comes from their dual and deeply entangled nature: they are simultaneously objective and grounded in situated experiences (aka. subjective). They embody actionable knowledge, and the activity through which they are constructed embodies knowledgeable action. They are reflective and projective.