

Teacher professional development through Knotworking: facilitating transformational agency to overcome constraints to teaching in relation to disruptive events.

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Four pillars framing my study

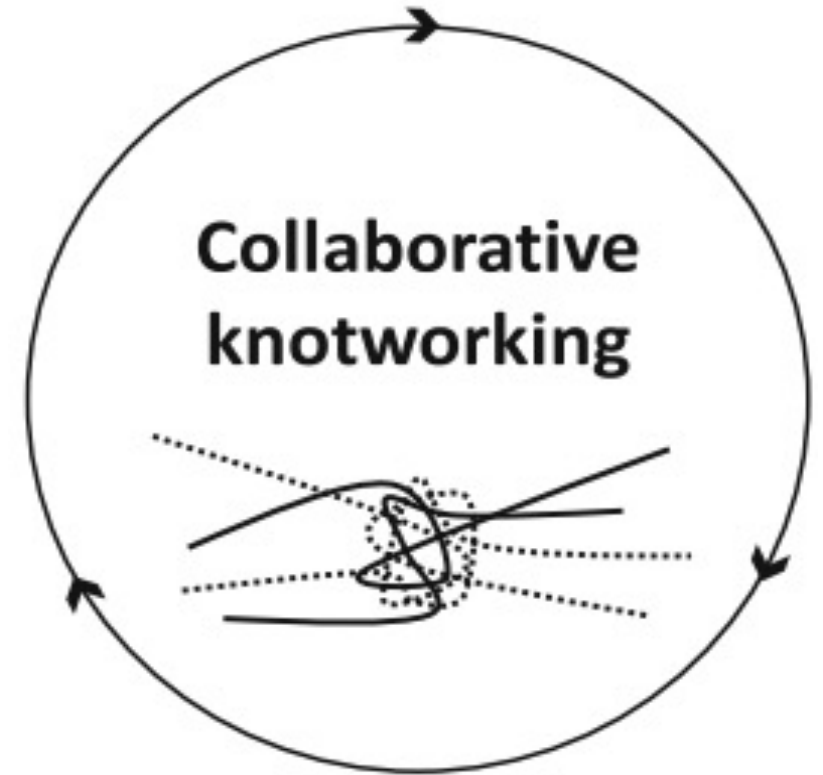
- A motivation for sustainable, site-based professional development.
- A focus on pedagogical responses to different learning needs.
- A Focus on the creation of social capital conditions that support collaboration and networking.
- A focus on the individual teacher, the school's influence, and the activities that teachers participate in. (Opfer and Pedder, 2011).

Engeström's Knotworking heuristic

Theoretical framing: Knotworking

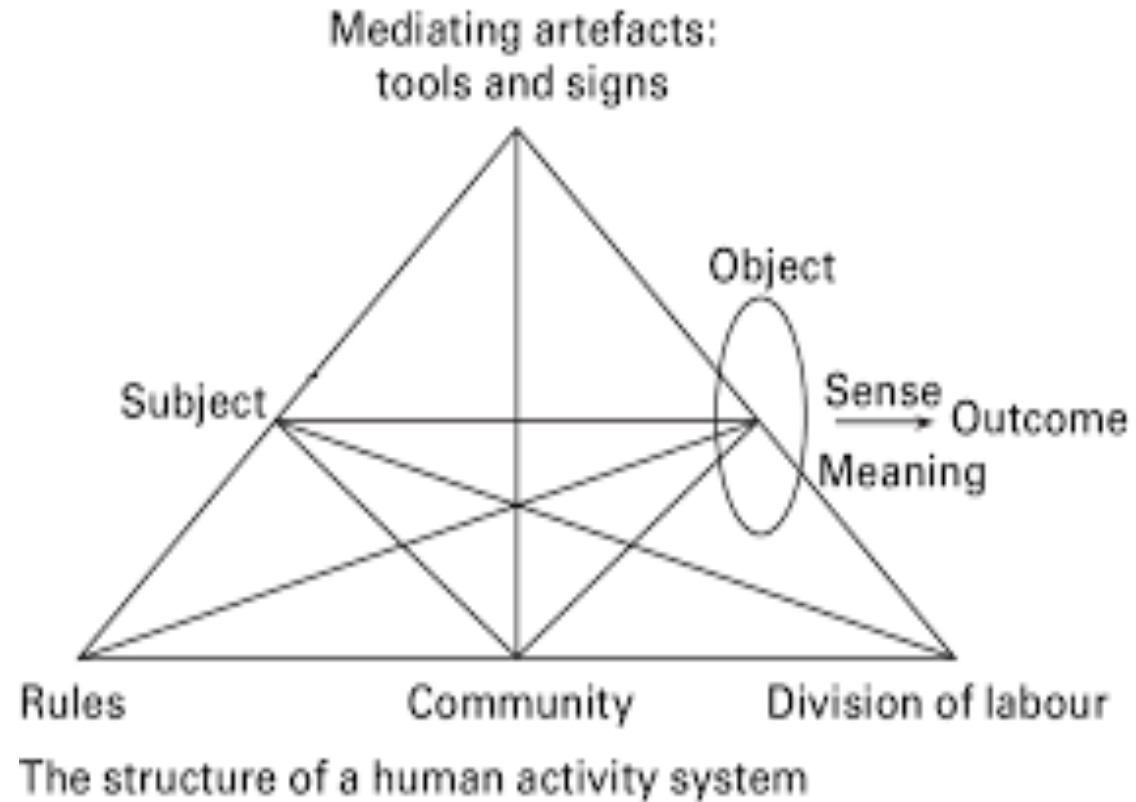
- Collaborative strategy drawn from CHAT.
- The identified constraint to activity is central to the knot.
- The tying and untying of knots.

(Engeström et al., 2012)

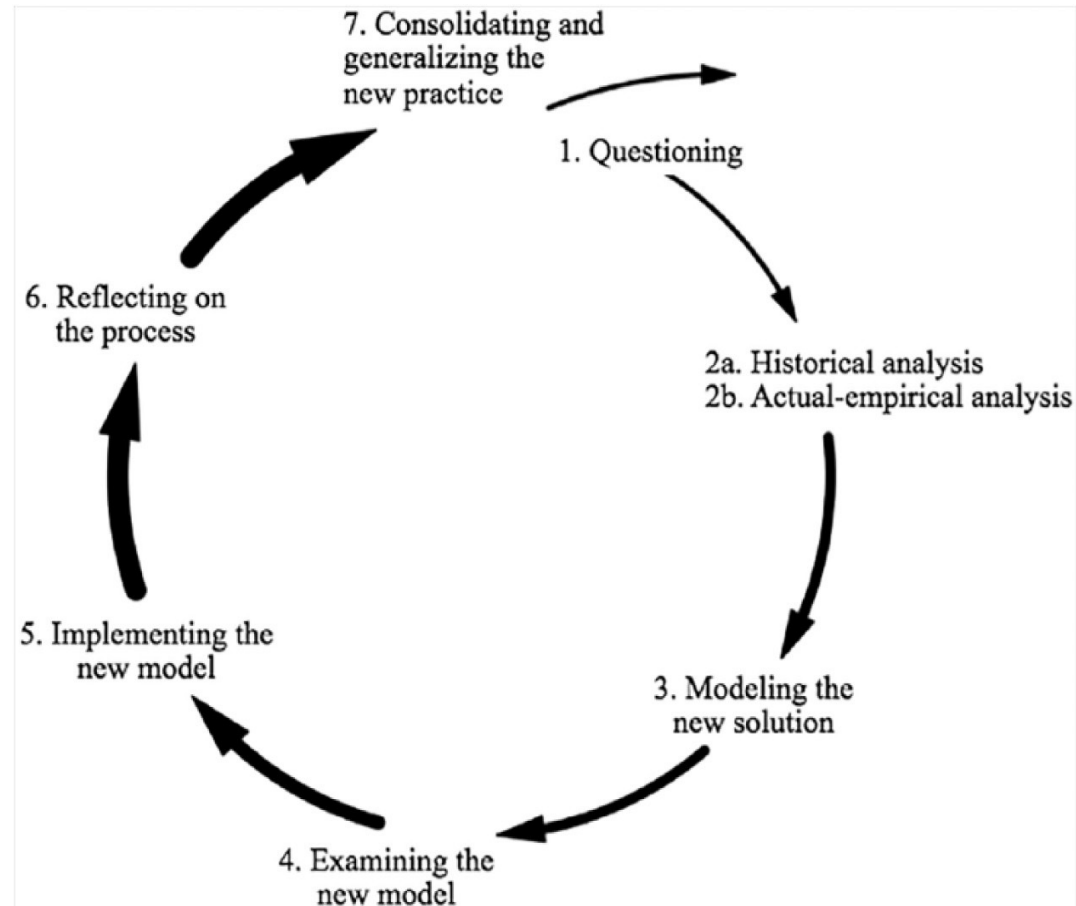


Second Generation Activity Systems Model

A coaching initiative



Expansive learning



Country	Documents	Citations	Average citation per document
Canada	5	85	17
Denmark	7	123	17.57
Finland	14	959	68.5
France	5	32	6.4
Israel	1	2	2
Italy	2	18	9
Japan	1	5	5
Luxembourg	1	0	0
Netherlands	1	15	15
Norway	1	15	15
South Africa	2	15	7.5
Sweden	1	2	2
United Kingdom	11	214	19.45
United States	7	861	123

Countries with most citations of top 50 cited “Knotworking in Education” articles.
Source: Scopus, analysis by VOSviewer
(Andrews, in preparation)

Critical incidents

- Disruptive events constraining teaching and learning.
- Disruption: The aftermath of Covid - 19.

Problem identification

- Teachers confronted with new challenges to teaching
- Traditional PD had not been successful

Research question

- Can knotworking assist teachers in identifying complex constraints to their teaching?
- Can knotworking assist teachers in finding concrete solutions to the identified problems?
- Are new practices sustained a year after the intervention?

Methodology

- Mediation of Activity Systems Models (Engeström, 2000)
- Knotworking process coached
- Qualitative research project
- Knots are recorded on MS Teams
- Transcriptions of the knots were coded for themes

Conceptual framework

Transformative agency (Sannino et al. 2016)

Relational agency

Transformative activist stance (Vianna and Stetsenko, 2014)

Problem identification

Raw data themes	First order themes	Higher order themes
Decreased focus	Distractibility	Teaching difficulties identified through relational agency
Slower working pace		
Increased frustration with tasks		
Anger and lashing out	Socialization	
Lack of care for others		
Increased shyness		
Emotional outbursts	Anxiety	
Crying		
Lack of resilience		
Organizational issues	Ineffective teaching strategies	
Problems with memory		
Resistance to group work		
Frustrated parents	Parenting	
Little home support		
Anger		

Concrete solution finding

Raw data themes	First order themes	Higher order themes
Repeat concepts. Integrate games into lessons. Emphasize routines	Distractibility	Professional identity through transformative agency
Facilitate conflict Allow for reflection. Encourage play	Socialization	
Journaling as a healthy outlet Focus on care initiatives. Decrease testing	Anxiety	
Team teaching Intentional differentiation of content. Structured group work interventions	Ineffective teaching strategies	
Regular parent consultations Encourage shared reading. Daily progress reports	Parenting	

Sustainability of teaching practice

Raw data themes	First order themes	Higher order themes
<p>We have broadened our toolbox of intervention to help girls focus on the tasks.</p> <p>Add more visual cues to instructions for work. keep highly distractible learners in the front of the class.</p> <p>Having all the learners engaged in a task at the same time created a kind of “buzz of excitement”.</p> <p>Allow time between subjects to let them dance and get some energy out.</p> <p>Such as getting them up and moving during the lesson.</p> <p>Changed up the lesson by moving from a video to work in their books to something on a whiteboard.</p> <p>Allowed girls to mix between classes for group work and find a space that worked for them.</p> <p>A good variety of individual work and then tech-based work to get the focus.</p>	<p>Examples of interventions for distractibility</p>	<p>Successful interventions from the knot-working intervention</p>

Critical discussion on the relative affordances of the use of Knotworking in Education PD

Facilitate complex educational work (Lecce et al., 2021)

Sustainability of new teaching practices (Anagnostopoulos et al., 2018)

Horizontal and vertical learning (Engeström, 2000)

Knotworking needs intensive support (Elmberger, 2020)

Knotworking can be frictional. (Melasalmi et al., 2023)

Resource limitations cause ruptures in the knots. (Melasalmi et al., 2023)

Conclusions

Evidence of **relational agency** and **transformative agency**.

Existing knowledge is deepened, and new knowledge is created.

Allow for a deeper understanding of complex systems.

Traction of new teaching practices.

Some people resisted collaboration.

People leaving + newer challenges + time factors, impacted momentum.

Follow up study

- Is Knotworking, as a PD support mechanism, suitable for every teacher?
- Could knotworking be more effective when supported with intensive coaching?

Thank
you!

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