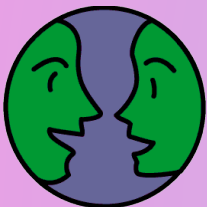


"To analyze a shared world
in a sedimented resource
And a community in a lonely I,
Hold infinity in the trace of a
social force,
And eternity in the wink of an
eye."

Gerry Stahl (channeling William Blake)

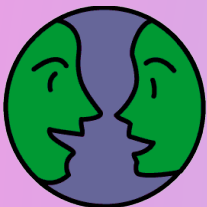
Open Foundational Questions in CSCL

- **How are interactional resources sedimented and how do they integrate a shared world, bridging across individual, group & community levels?**
- **How do individuals emerge from groups & communities and how do they contribute to them?**
- **How can we trace the emergence of social practices out of group interactions?**
- **How can we rigorously conduct thick descriptions (like the wink of an eye)?**



The Uniqueness of CSCL

- **CSCL is a human science, requiring human interpretation to analyze many central issues.**
- **“CSCL is a field of study centrally concerned with meaning and the practices of meaning-making in the context of joint activity, and the ways in which these practices are mediated through designed artifacts.” – Tim Koschmann at CSCL 2002 keynote**

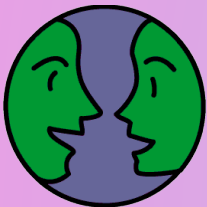


www.GerryStahl.net



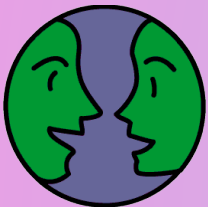
Paradigmatic Research

- Thomas Kuhn in "*The Structure of Scientific Revolutions*" (1962) distinguished research within a paradigm from research that defines a new paradigm - tension in CSCL!
- Much research in CSCL adopts methods from education, psychology, information science, computer science - which is based on their paradigms
- This can produce incremental gains in knowledge within established paradigms



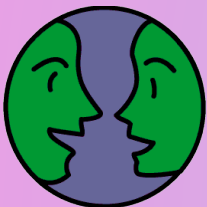
Quantitative Research

- **The established sciences have benefited from quantitative methods in the past 100 years**
- **Many CSCL researchers were trained in these traditions**
- **However, these methods are based on specific theoretical paradigms – such as cognitive-science theories of cognition and folk theories of cognition**
- **For instance, research based on self-reports or coding rely on the folk theories of subjects or coders**



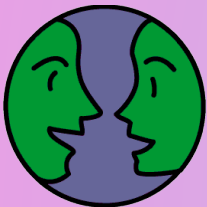
Exploratory Research

- **CSCCL needs new paradigms of cognition, centered on collaborative learning (small groups) and computer support (artifact-mediated)**
- **This requires explorative research, not based on paradigms (and their methods) of other sciences**
- **CSCCL research needs to analyze how “practices of meaning making” take place at the group unit of analysis – and how this integrates individual contributions and socio-cultural forces**



Two Exploratory Agendas

- **Theory: "To analyze a shared world in a sedimented resource": how to integrate individual, small group & community units of analysis with interactional resources**
 - ijCSCL issues 2012 (4), 2013 (1), 2013 (2)
 - Workshop on "Levels of Learning" at CSCL 2013
- **Design-Based Research: The Virtual Math Teams (VMT) Project 2002-2015**
 - Stahl (2006, 2009, 2013)



The Virtual Math Teams Trilogy

Group Cognition (2006)

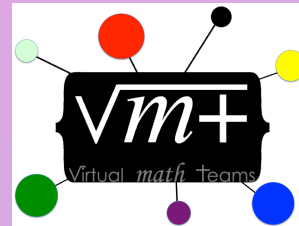


Computer Support for Building Collaborative Knowledge

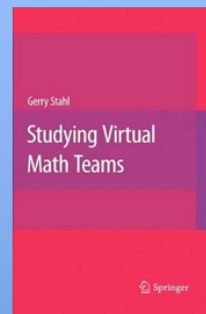
MIT Press, 510 pages
Available for Kindle

The theory of group cognition emerges from several studies of CSCL and CSCW technologies. Analysis of interaction. Theory of CSCL.

www.GerryStahl.net/elibrary/gc



Studying Virtual Math Teams (2009)

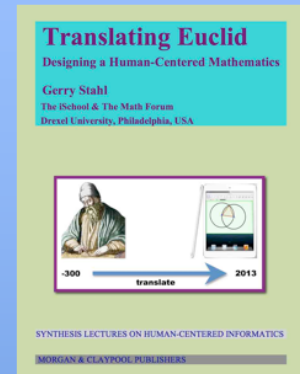


Springer Press, 626 pages
CSCL Book Series, paperback

Studies of the VMT Project technology, pedagogy, analysis, theory by team members and international collaborators

www.GerryStahl.net/elibrary/svmt

Translating Euclid (2013)



Creating a Human-Centered Mathematics

Morgan Claypool Publishers,
325 pages, e-book & paperback

Latest results of this design-based CSCL research from many perspectives.

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