Sorting through research paradigms

EDDE 806

Wed Dec 12/2012

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Research Paradigms

what is a paradigm?

- paradigm: " viewed as a set of basic *beliefs* (or metaphysics) that deals with ultimates or first principles. It represents a *worldview* that defines, for its holder, the nature of the 'world', the individual's place in it, and the range of possible relations to that world and its parts (Guba & Lincoln, 1994, p. 107)
- paradigm: "a basic belief system or worldview that guides the investigator not only in choices of method but in ontologically and epistemologically fundamental ways" (Guba & Lincoln, 1994, p. 105)
- paradigm as "made up of the general theoretical assumptions and laws, and techniques for their application that the members of a particular scientific community adopt (Chalmers, 1982, p. 90)

teasing apart paradigms

- the ***ontological*** question: "what is the form and nature of reality and, therefore, what is there that can be known about it?"
- the ***epistemological*** question: "what is the nature of the relationship between the knower and would-be knower and what can be known?" (constrained by answer given to the ontological question)
- the ***methodological*** question: "how can the inquirer (would-be knower) go about finding out whatever he or she believes can be known?"

from Guba & Lincoln, 1994, p. 108

Cohen et al. (2011)

- ontological assumptions give rise to epistemological assumptions which give rise to methodological considerations which in turn give rise to issues of instrumentation and data collection (p. 3)
- add axiology to ontology and epistemology (p. 3)

which is which?

- we construct knowledge through our lived experiences and through our interactions with other members of society. As such, as researchers, we must participate in the research process with our subjects to ensure we are producing knowledge that is reflective of their reality
- we are shaped by our lived experiences, and these will always comes out in the knowledge we generate as researchers and in the data generated by subjects OR we cannot know the real without recognizing our own role as knowers

(reference withheld for now!)

ontology

- the worldviews and assumptions in which researchers operate in their search for new knowledge (Schwandt, 2007)
- the study of things that exist and the study of what exists (Latsis, Lawson & Martin, 2007)
- what is the nature of reality? (Creswell, 2007)

from Lincoln, Lynham & Guba, 2011,

Table 6.5, p. 102

epistemology

- the process of thinking. The relationship between what we know and what we see. The truths we seek and believe as researchers. (multiple citations)
- what is the relationship between the researcher and that being researched?

from Lincoln, Lynham & Guba, 2011,

Table 6.5, p. 102

methodology

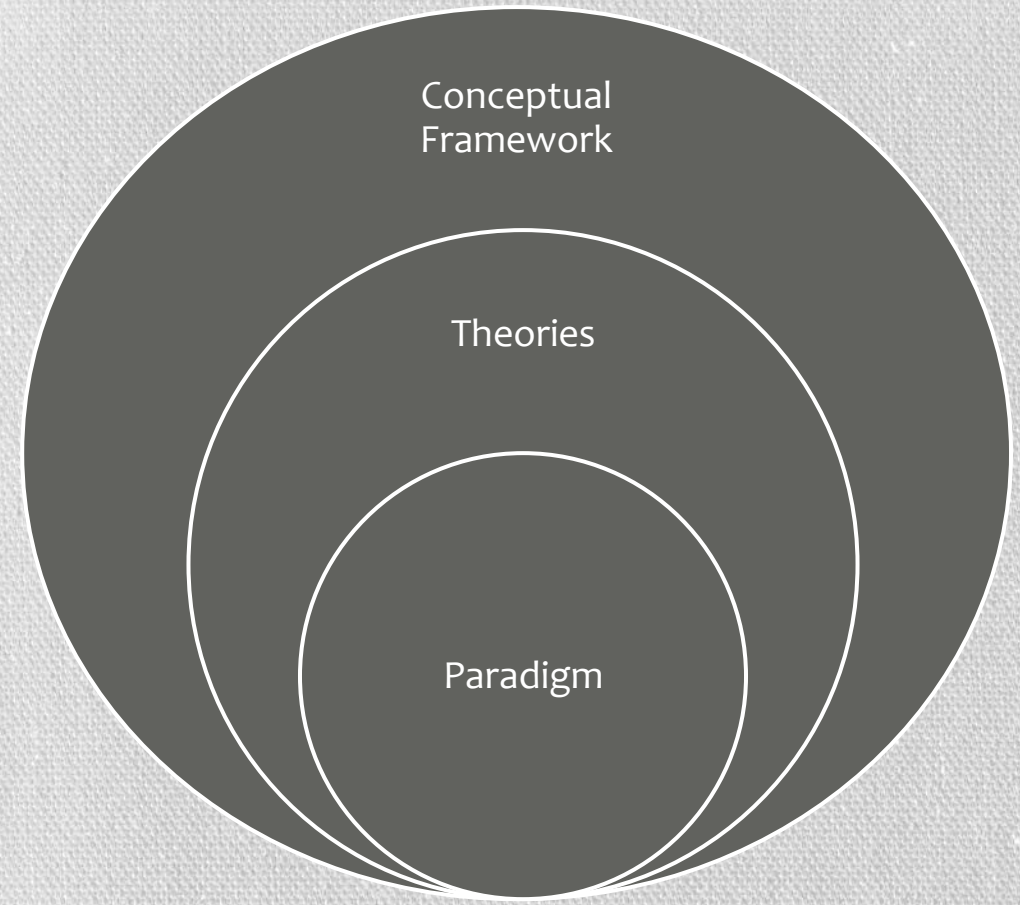
- the process of how we seek out new knowledge. The principles of our inquiry and how inquiry should proceed (Schwandt, 2007)
- what is the process of research? (Creswell, 2007)

from Lincoln, Lynham & Guba, 2011,

Table 6.5, pp. 104-105

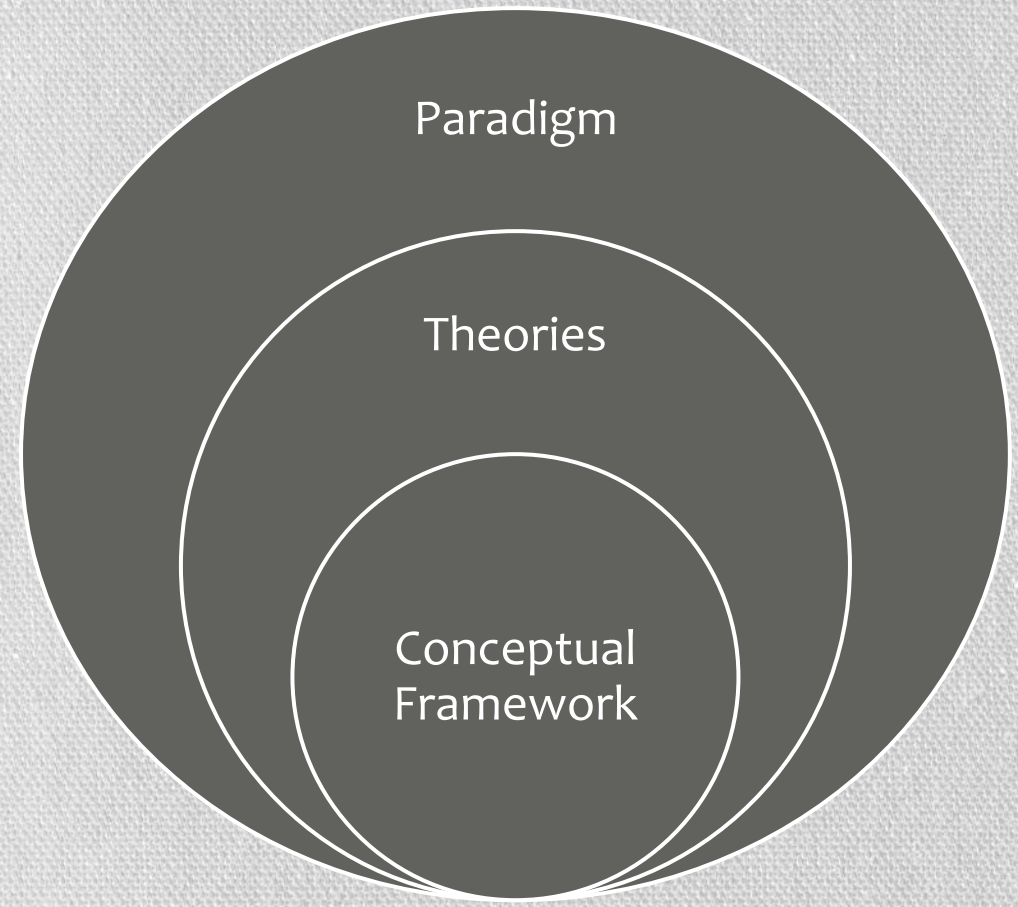
how do paradigms relate to research processes?

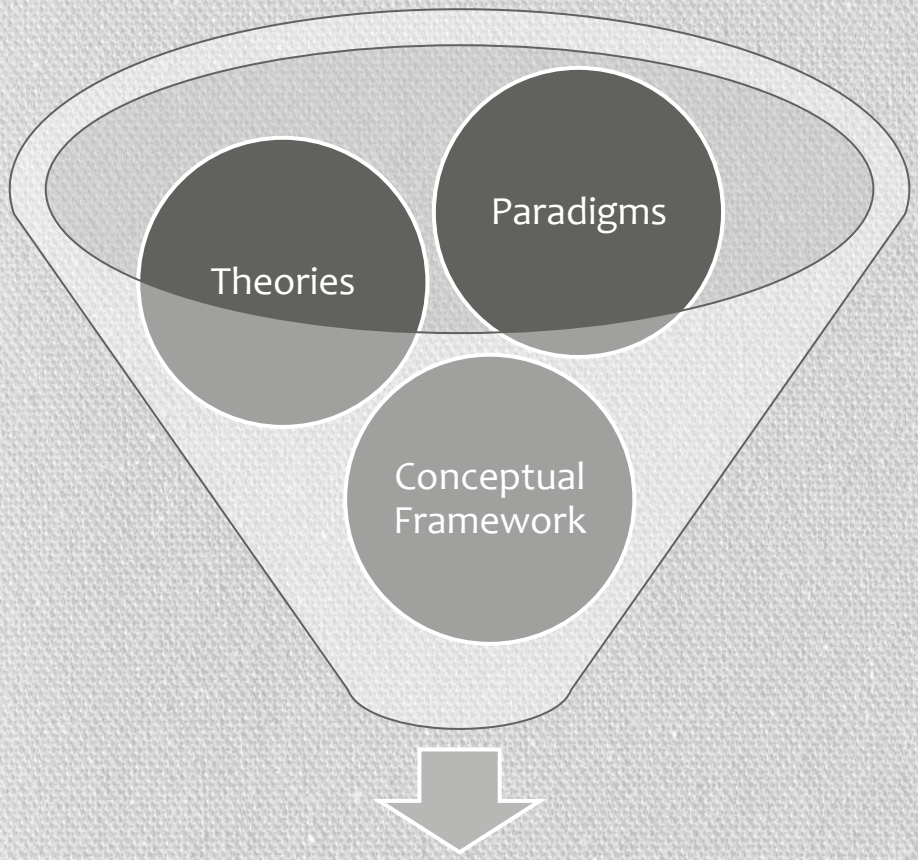
- theoretical paradigms – research/inquiry strategies – methods of collection and analysis (Denzin & Lincoln, 2005)
- paradigms – research styles – strategies and instruments for data collection (Cohen et al., 2011)
- philosophical assumptions (ontology, epistemology, axiology, rhetorical, methodological) – paradigms or worldviews – interpretive or theoretical communities/stances (i.e., feminist research) (Creswell, 2007)



conceptual frameworks – theoretical frameworks – paradigms: how do they fit together?

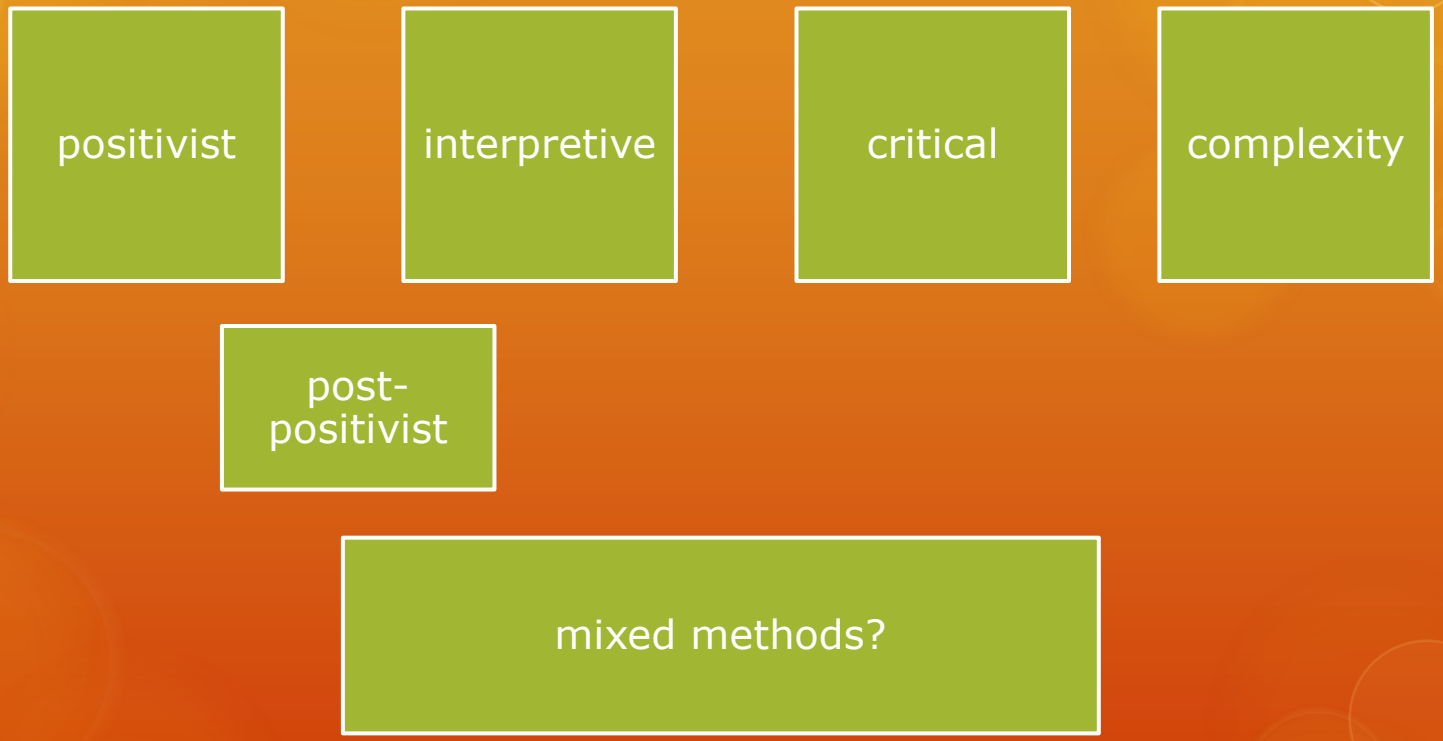
or maybe this way …





but not this way

Cohen et al. (2011)



Guba & Lincoln (2005)

positivism

postpositivism

critical theories et al.

constructivism

participatory

Lincoln, Lynham & Guba (2011)

positivism

→ realists, "hard" science

postpositivism

→ modified form of postivism

critical theories (+ feminism + race)

→ create change, to the benefit of those oppressed by power

constructivism (or interpretivist)

→ gain understanding by interpreting subject perceptions

participatory (+ postmodern)

→ transformation based on democratic participation between researcher & subject

Creswell (2003, 2007)

- Paradigms used by qualitative researchers:
  - postpositivism
  - social constructivism (often combined with interpretivism)
  - advocacy / participatory
  - pragmatism (focus on the outcomes of the research; the emphasis is on the problem being studied and the questions asked about this problem and not the method; compatible with multiple methods approaches (2007, p. 22))

Lather (2006)

- argues against a linear sense of development toward 'one best way' and 'consensus' approaches; instead, enacts a paradigm mapping that holds together necessary incompatibilities in the hope that such a chart can help diagram the variety that characterizes contemporary approaches to educational research (p. 36)
- "paradigm mapping can help us recognize both our longing for and a wariness of an ontological and epistemological home" (p. 40)

Lather, P. (2006). Paradigm proliferation as a good thing to think with: Teaching research in education as a wild profusion. *International Journal of Qualitative Studies in Education, 19*(1), 35-57.

Lather (2006)

Table 1. Revised paradigm chart

Predict	Understand	Emancipate	Brk	Deconstruct	Next?
*Positivist	*Interpretive	*Critical		Poststructural	Neo-positivism
Mixed methods	Naturalistic	Neo-Marxist		Postmodern	
	Constructivist	< Feminist >			
	Phenomenological	Critical race theory		Queer theory	
		Praxis-oriented		< Discourse analysis	
	Ethnographic	Freirian participatory < action research			
	Symbolic/ interaction			Postcolonial	Post-theory
				Post-Fordism	Neo-pragmatism
	Interpretive mixed methods			Post-humanist	Citizen inquiry
				Post-critical	Participatory/ dialogic Policy analysis
		Gay and lesbian theory			
				Postparadigmatic diaspora (John Caputo)	
		Critical ethnography		Post everything (Fred Erickson)	Post-post

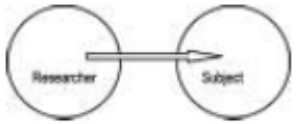
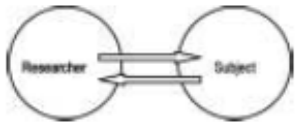
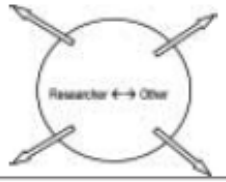
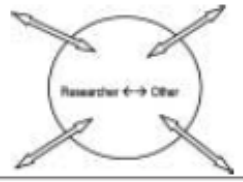
(Patti Lather & Bettie St Pierre, 2005)

Notes: *Indicates the term most commonly used; < > indicates cross-paradigm movement. Brk (Break) Indicates a shift from the modernist, structural, humanist theories/discourses on the left to the postmodernist, poststructural, posthumanist theories/discourses on the right. In the post theories, all concepts (language, discourse, knowledge, truth, reason, power, freedom, the subject, etc., are deconstructed). Though all these paradigms operate simultaneously today, there is a historical sense to their articulation. August Comte (1778–1857) proposed positivism in the nineteenth century; social constructivism is often dated from Peter Berger and Thomas Luckmann's (1966) book, the *Social construction of reality*. The emancipatory paradigms grew from the Frankfurt School and the social movements of the 1960's and 1970's; and the post paradigms, from the critiques following the Second World War, include those of Michel Foucault (1926–84), Jacques Derrida (1930–2004), and Gilles Deleuze (1925–95). Paradigm shifts occur as reaction formations to the perceived inadequate explanatory power of existing paradigms. Therefore, someone who works in emancipatory paradigms, for example, is often aware of the theoretical assumptions as well as the critiques of positivism and interpretivism. Note also that some theories that start out in one paradigm change considerably when they are taken up in another; e.g. poststructural feminism is considerably different from liberal, emancipatory feminism. Conventional science is positivist but when science's assumptions are rethought in interpretive or post paradigms, it is not the same; *i.e. science is not the same in all paradigms in terms of ontology, epistemology and methodology*.

Source: Based on: Lather, Patti (1991) *Getting smart: Feminist research and pedagogy with/in the postmodern* (New York, Routledge). [see p. 7 of this book for an earlier version of this chart.] Derived from the following: Habermas, Jurgen (1971) *Knowledge and human interests* (Jeremy J. Shapiro, Trans.) (Boston, Beacon Press). (Original work published 1968)

from Lather (2006, p. 38-89) … a student mapping

Table 2.

POSITIVIST	*Interpretivist*	CRITICAL THEORY	Deconstructivist
			
Reality is objective and "found"	Reality is subjective and constructed	Reality is subjective and constructed on the basis of issues of power	Reality is ultimately unknowable; attempts to understand it subvert themselves
Truth is one	Truth is many	Truth is many, and constitutes a system of socio-political power	"Truths" are socially constructed systems of signs which contain the seeds of their own contradiction
Discourse is structured and transparent, reflecting reality	Discourse is dialogic and creates reality	Discourse is embedded in (and controlled by) rhetorical and political purpose	Discourse is by nature inseparable from its subject, and is radically contingent and vulnerable
What is true?	What is heuristic?	What is just?	Is there a truth?
What can we know?	What can we understand?	What can we do?	What constitutes truth?
Knowing the world	Understanding the world	Changing the world	Critiquing the world
Communication as transmission	Communication as transaction	Communication as decision-making	Communication as challenging the nature of communication
If this research paradigm were a color, it would be:			
blue (cool, "scientific," objective)	**green** (natural, symbolic of organic growth)	**red** (dynamic, action-oriented)	**black** (absence or denial of color)
If this research paradigm were a public event, it would be:			
a marching band or **classical ballet** (precise, rule-dominated)	**community picnic** (cooperative, interactive, humanistic)	**a March of Dimes telethon** (active, purposeful, concerned with marginal groups)	**a circus, amusement park, or carnival** (multiplicity of perspectives and stimuli; no single reference point

c'td

Table 2. *Continued.*

POSITIVIST	*Interpretivist*	CRITICAL THEORY	Deconstructivist
If this research paradigm were a game, it would be:			
Tetris (exacting, quantitatively oriented, uses computer)	**Clue** (exchanges with other players inform decisions)	**Monopoly** (a world constituted by economic struggles)	**Candyland** (unconcerned with reality; played either by children or the extremely sophisticated)
If this research paradigm were a sport, it would be:			
golf (boring, individual, fastidious, exacting)	**tennis** (interactive, interdependent, labor intensive)	**midnight basketball** (collaborative, intended to change society; oppressed participate in self-empowerment)	**professional wrestling** (is it real? non-reality disguised as reality; simultaneous acceptance and denial of what is real)
If this research paradigm were a celebrated figure, it would be:			
Anita Bryant **Napoleon** (sure of their position; calculating)	**Florence Nightingale** **Dag Hammersjold** (receptivity to others; ability to entertain multiple viewpoints)	**Susan B. Anthony** **Karl Marx** (activists; concerned with oppressed groups)	**kd lang** **Woody Allen** (self-contradictory; quirky; they carve out their own space)
The researchers in this paradigm would drink:			
Scotch on the rocks (conventional, "hard" liquor for "hard science," hegemonic)	**Californian white wine** (natural, convivial, social, interactive)	**Vodka** (the revolutionary's drink; fiery, subversive)	**Zima** (defies categorization; neither wine, nor beer, nor hard liquor; trendy)

Lincoln, Lynham & Guba (2011, p. 102-103)

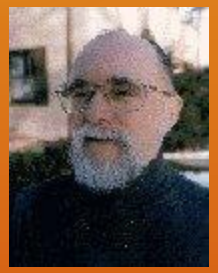
Issue	Positivism	Postpositivism	Critical	Constructivism	Participatory
ontology	belief in a single identifiable reality; a single truth that can be measured and studied	there is a single reality but we may not be able to fully understand what it is or how to get to it	human nature operates in a world based on struggle for power; leads to interactions of privilege and oppression	relativist; multiple realities (local, specific, co-constructed); reality constructed intersubjectively through meanings and understandings	participative reality; worldview based on participation and participative realities
epistemology	total objectivity; value scientific rigor not its impact on society and research participants	can only approximate nature; interaction with research subjects kept to a minimum; validity of research comes from peers not the subjects	driven by the study of social structures, freedom/ oppression, power, control; knowledge that is produced can change … through empowerment	transactional & subjectivist – inquirer & inquired are fused into a single entity; co-created findings; we cannot separate ourselves from what we know	critical subjectivity; extended epistemology of experiential, propositional and practical knowing

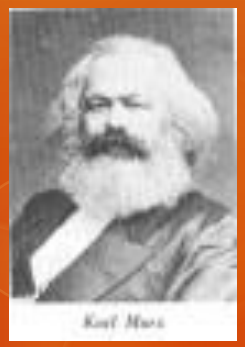
Lincoln, Lynham & Guba (2011, p. 104-105)

Issue	Positivism	Postpositivism	Critical	Constructivism	Participatory
methodology	belief in the scientific method; value data produced by studies that can be replicated	attempt to ask more questions than positivists because of the unknown variables; use of statistics is important; want to distance the researcher to gain objectivity	dialogical / dialectical; search for participatory research which empowers the oppressed & supports social transformation; the aim is transformation and to stimulate oppressed people to rationally scrutinize their lives & reorder their collective existence	hermeneutic (interpretation) and dialectical (comparing and contrasting dialectics (resolving disagreements through rational discussion); rely heavily on naturalistic methods; meanings emergent from the research process; aim is understanding	political participation in collaborative action inquiry; primacy of the practical; democratization and co-creation of both content and method; engage as co-researchers and co-subjects; learn new knowledge through application of that knowledge

"I thought I felt a paradigm shift, but
it was just my undershorts riding up."

TA's Research Paradigms





- **Quantitative ~** discovery of the laws that govern behavior
- **Qualitative ~** understandings from an insider perspective
- **Critical ~** Investigate and expose the power relationships
- **Design-based ~** interventions, interactions and their effect in multiple contexts

an example of the interplay between paradigms – theoretical frameworks – research questions and methodology …

How do self-employed workers experience informal work-related learning in an online community?

Situated Learning theory as initial entry point (Lave & Wenger, 1991)

- fit with constructivist / interpretivist paradigm

Turned to Actor Network Theory (ANT)

- also a practice-based theory
- but strong unique set of ontological assumptions aka the social & material
- uneasy fit within a c-i paradigm

reflects two different paradigms

no attempt to reconcile the two theoretically but mapped the overlaps and tensions

Post-Humanist

- sociology of technology studies
- post-phenomenology
- media ecology

Ecological / System Theories

Complexity Theory (Davis & Sumara, 2006)

Practice Theories

- Situated Learning Theory
- Activity Theory CHAT

ANT fits in a number of theoretical communities – some symmetry at a theoretical level

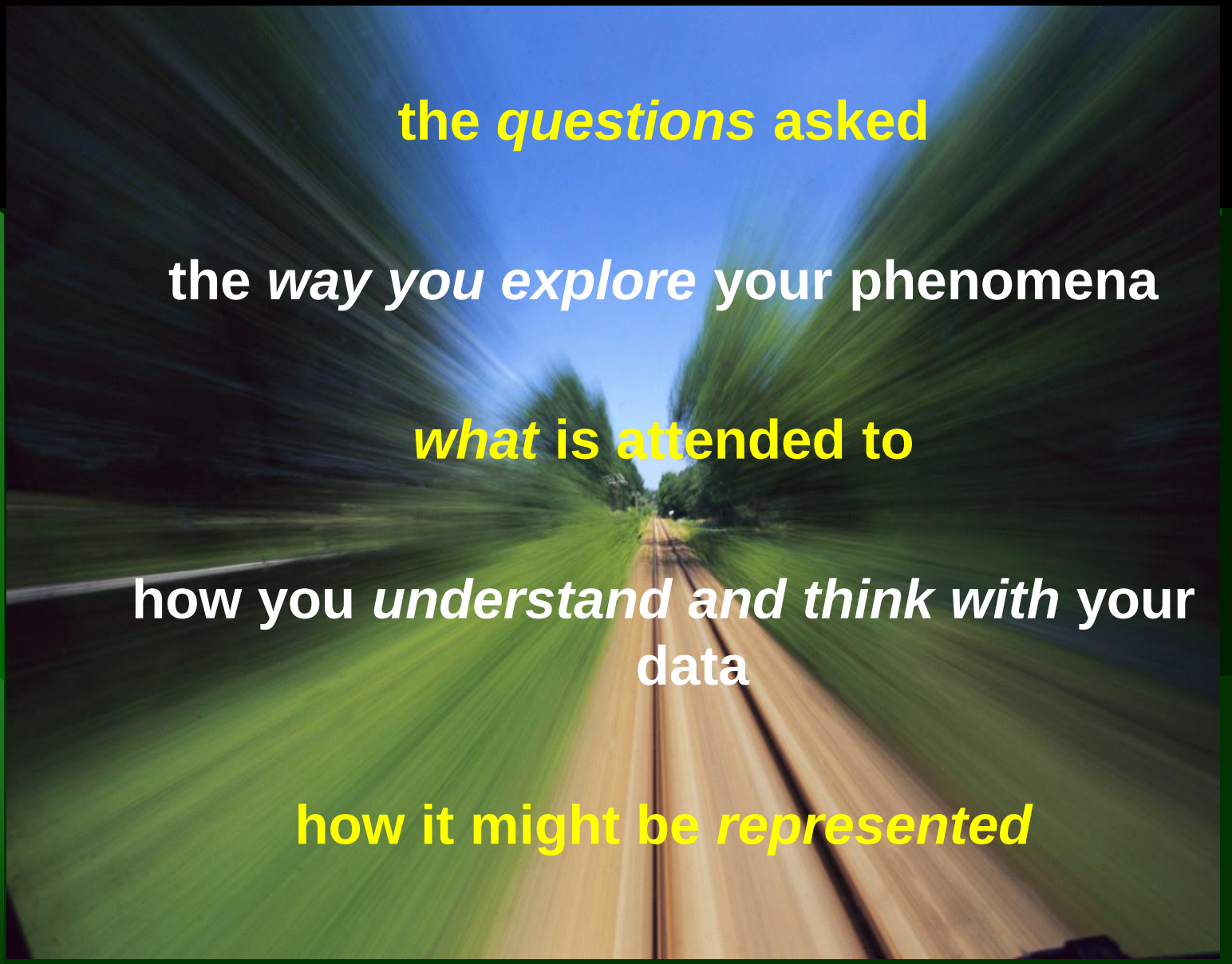
Actor-Network-Theory

paradigmatic sources

roots in post-structuralism

post-humanist

Joan Miro Carnival of Harlequin


the *questions* asked
the *way you explore* your phenomena
what is attended to
how you *understand and think with* your data
how it might be *represented*

technologies “fold into us as much as we fold into them” *(Introna, 2007)*

Disregard for material actors, the objectification of these actors and the overdetermination of them preclude more careful theoretical and empirical inquiry into the ways in which the persons and technologies are involved with one another.

(Waltz, 2006)

Actor-Network-Theory

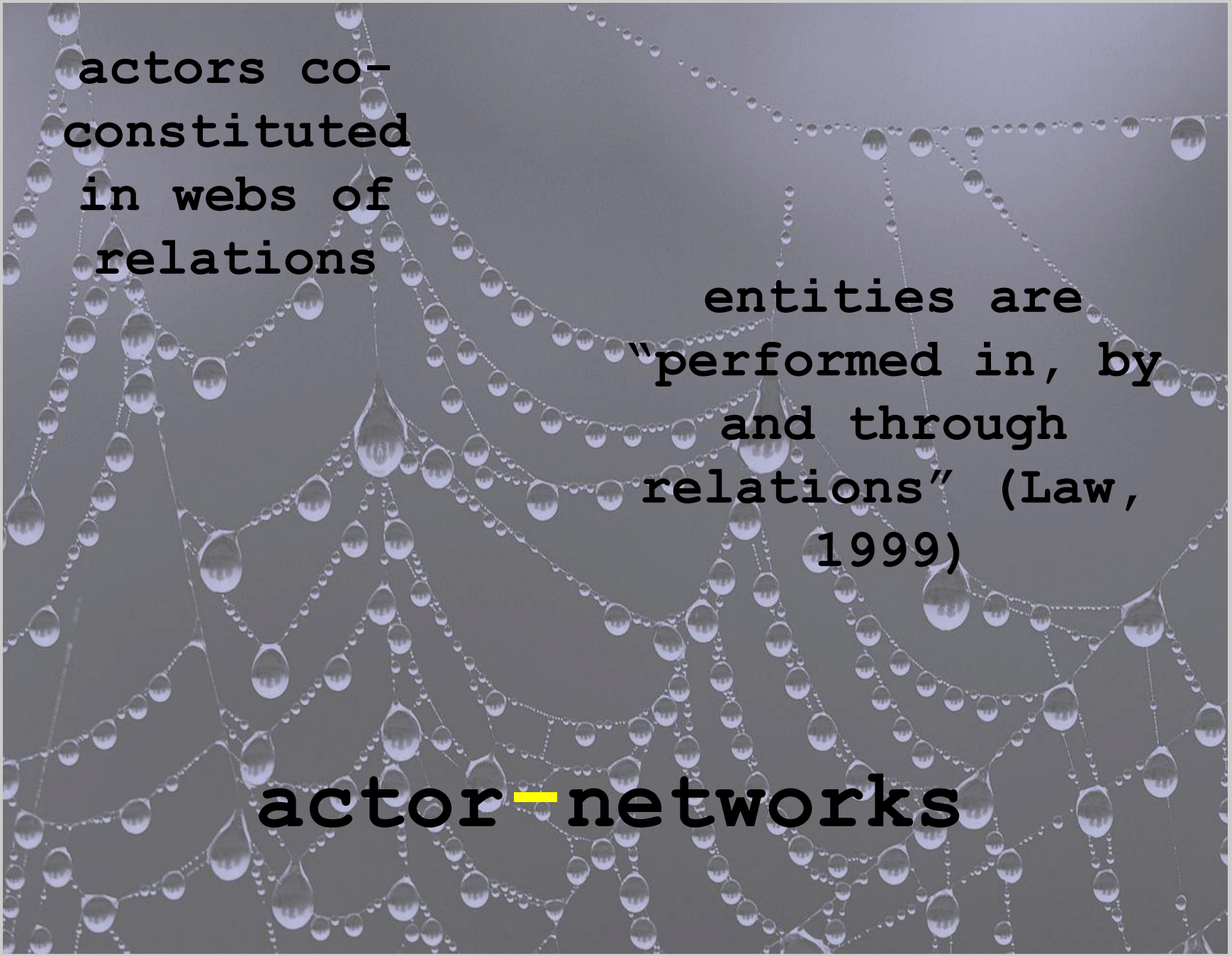
the ontology

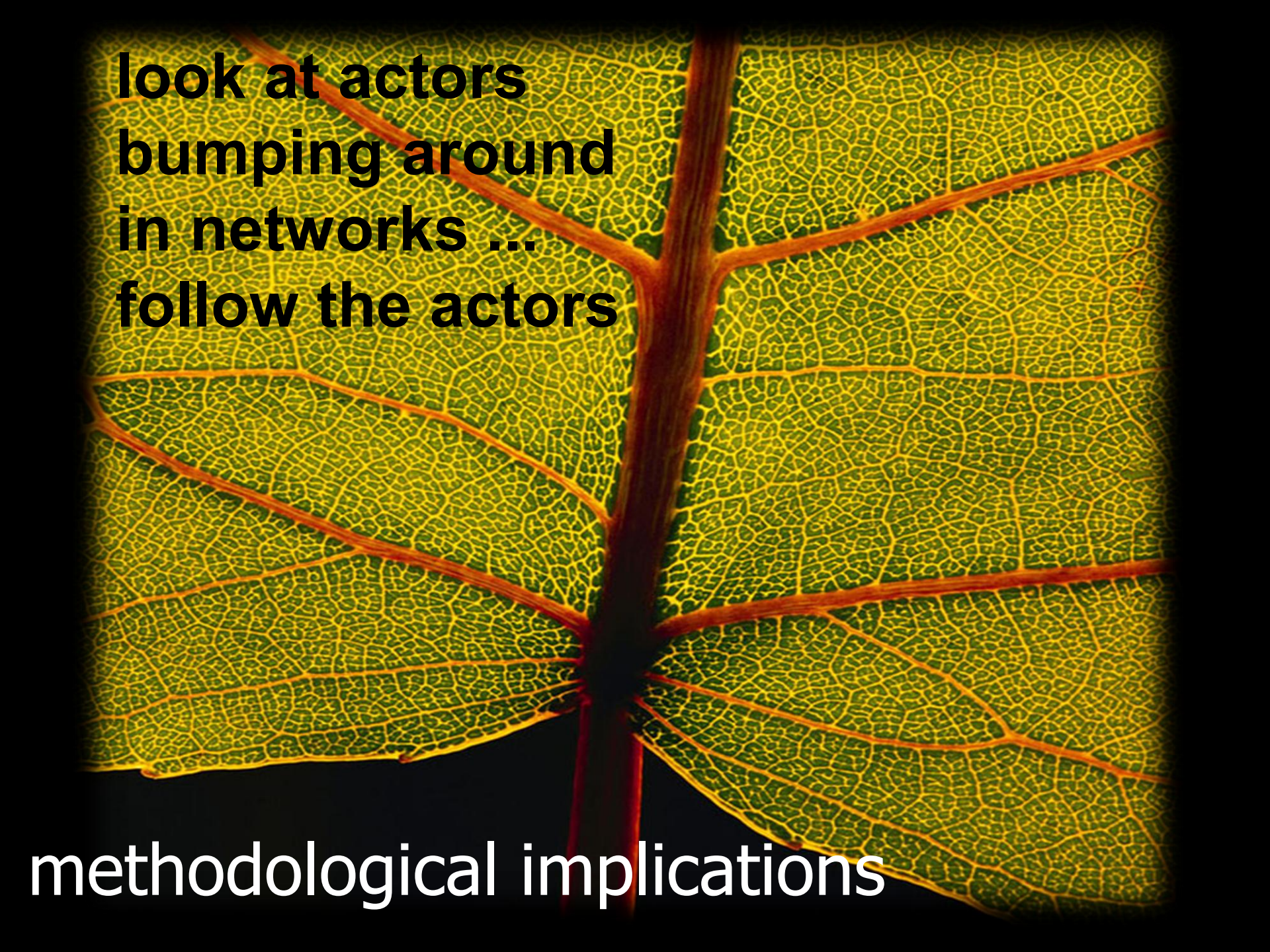
learning as an effect of a network ... assemblages which include people, objects, ideas, practices

the principle of symmetry

Joan Miro Carnival of Harlequin

Grass does things in the world, just as atoms and Popeye do things *(Harman, 2009).*


actors co-constituted in webs of relations
entities are "performed in, by and through relations" (Law, 1999)
actor-networks



methodological implications

interviewing the delete button

the connected object ... the "relational game in which objects are involved (and which objects themselves activate)" (Bruni, 2005)

mediating relations with what presses in on screens as well as digital traces left behind in cyberspace

research questions

How do self-employed workers experience informal learning in an online community?

How do the self-employed engage in online communities?

What are they learning and how is this knowledge being constructed and mobilized?

How does technology shape their online community learning experiences?

How do self-employed workers experience informal work-related learning in an online community?

How do the self-employed engage in online communities for work-learning?

What kinds of learning emerge through the work-learning practices of self-employed workers in online communities?

How is work-learning enacted in online communities?

How do inter-actions between web technologies and self-employed workers unfold in online communities?

How might a researcher “interview” technology objects?

analysis

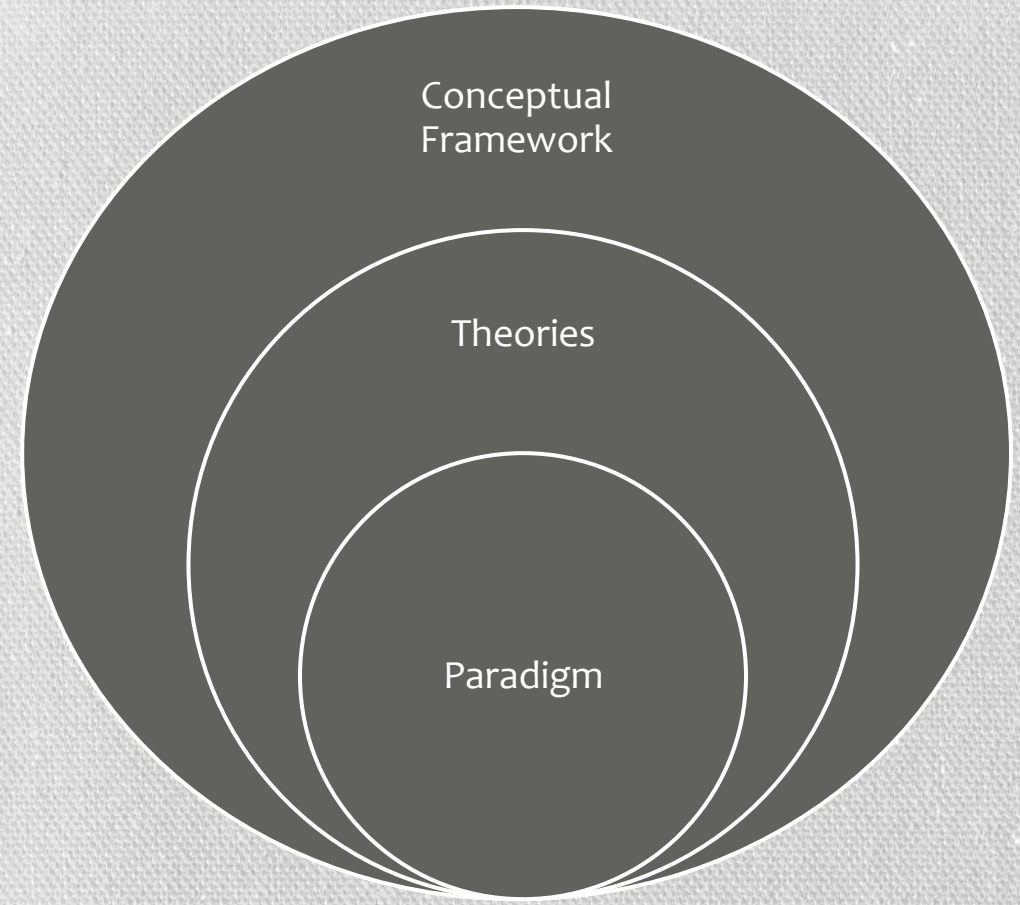
- traditional thematic analysis
- but ANT analysis was quite different:
  - thinking heuristics not analysis how-to's
  - an analytic framework to question the data
  - anecdotes: the spectacular & the mundane
  - surfacing objects & practices of interest: attending to the social and the material ... posting, digital footprint, the delete button

Paradigms and more paradigms - discussion!

Entry Points

- How comfortable are you with research studies in which the researcher adopts a more eclectic approach, choosing multiple – and perhaps contradictory – research paradigms?
- Adopting a critical worldview situates the researcher and their research project in a unique way, often in sharp contrast to an interpretive/constructivist perspective. How might DE research projects benefit from a stronger uptake of critical theorizing? What cautionary advice would you give?
- What level of congruency is needed between a paradigm – the researcher's worldviews – research question – method – research context? What factors determine the research paradigm you adopt for your research?

THEORETICAL & CONCEPTUAL FRAMEWORKS



conceptual frameworks – theoretical frameworks – paradigms: how do they fit together?

The Conceptual Framework

WHAT?

- an "intellectual puzzle" (p. 98)
- a map of theories and issues relating to the research topic (p. 99)

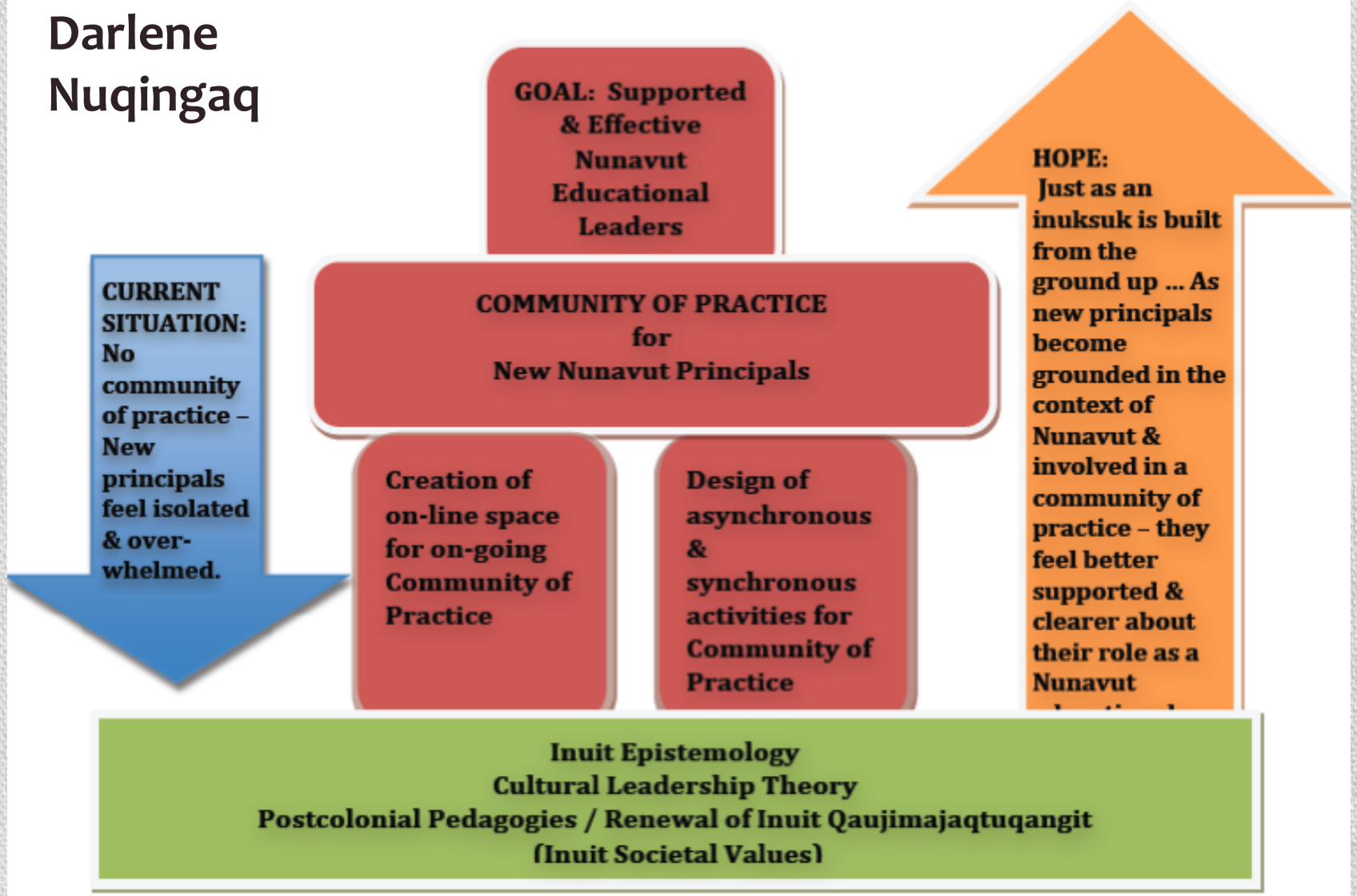
(from Leshem & Trafford, 2007)

- a diagram that depicts the different facets of the research issue/topic in the research and the relationships between them … should be accompanied by a written description of approximately 6-10 sentences that explains the diagram

(from McDonald, Stodel, Thompson & Archibald, in-press)

Conceptual Framework:
Building a Community of Practice for New Nunavut Principals

Darlene Nuqingaq



Joanne Buckland

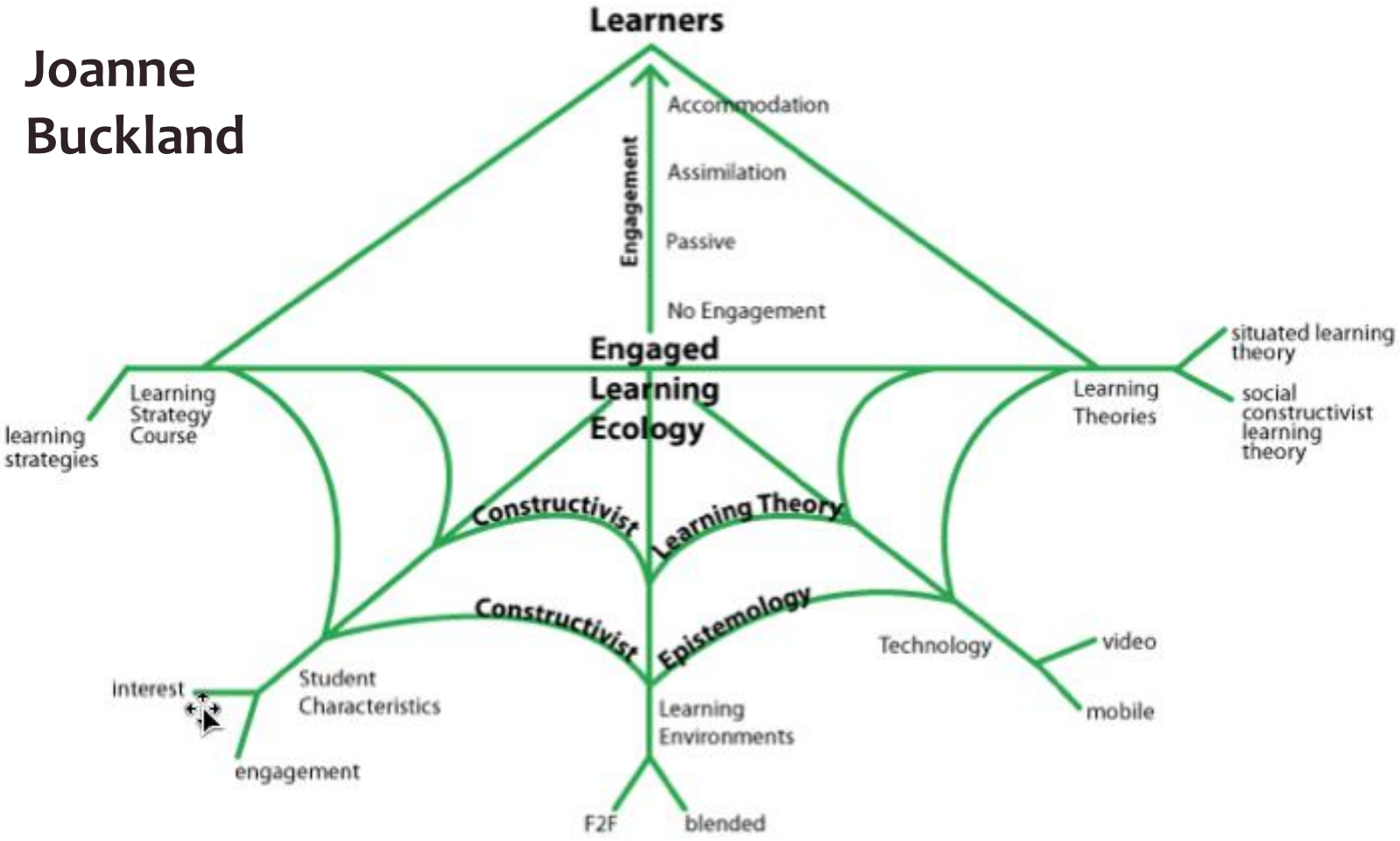
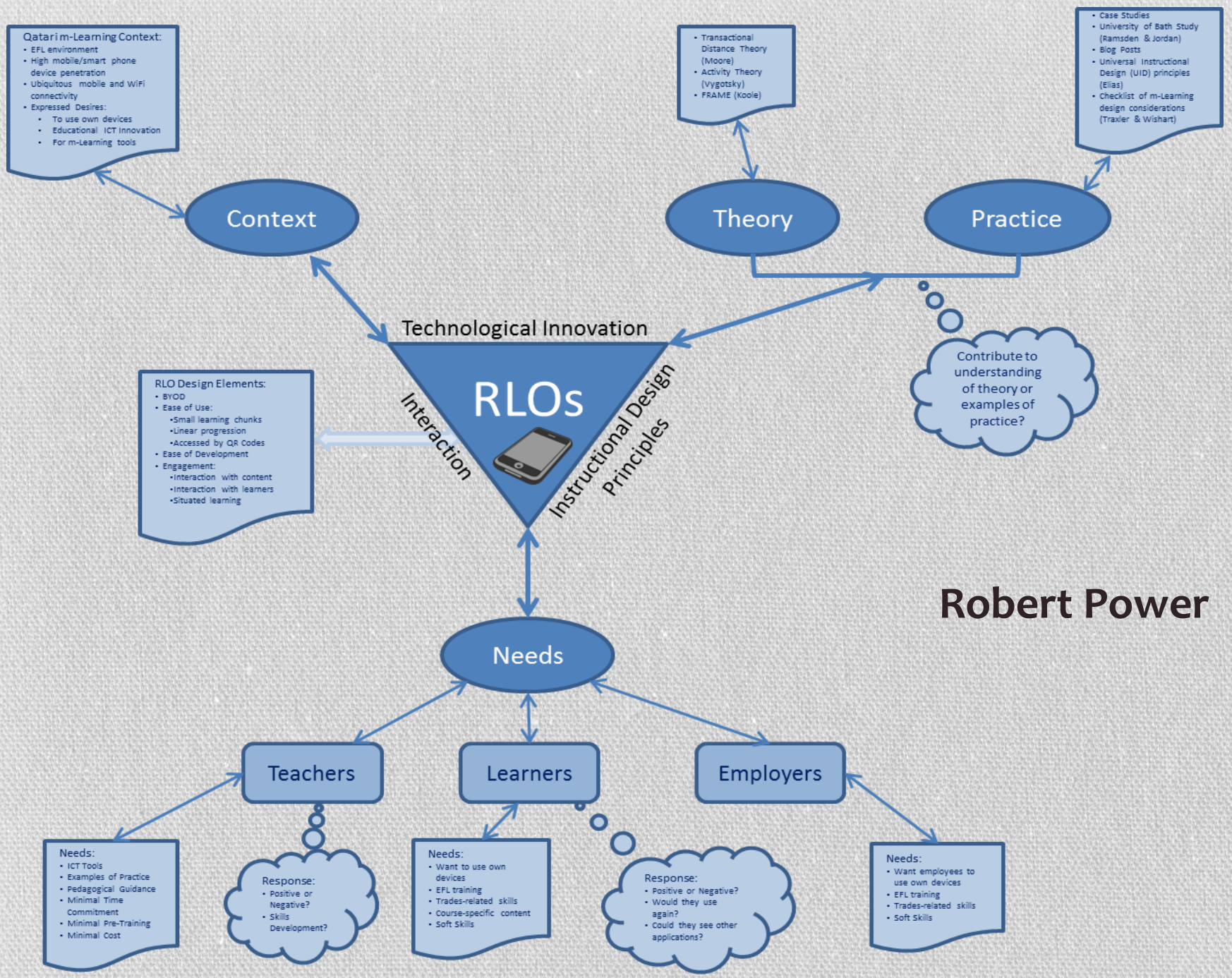


Figure 1: Conceptual Framework of Engaged Learning Ecology

Timothy J. McNamara

(Figure 1 – conceptual framework – complexity theory)


Qatari m-Learning Context:
• EFL environment
• High mobile/smart phone device penetration
• Ubiquitous mobile and WiFi connectivity
• Expressed Desires:
• To use own devices
• Educational ICT Innovation
• For m-Learning tools
• Transactional Distance Theory (Moore)
• Activity Theory (Vygotsky)
• FRAME (Koole)
• Case Studies
• University of Bath Study (Ramsden & Jordan)
• Blog Posts
• Universal Instructional Design (UID) principles (Elias)
• Checklist of m-Learning design considerations (Traxler & Wishart)
Context
Theory
Practice
Technological Innovation
RLOs
Interaction
Instructional Design Principles
RLO Design Elements:
• BYOD
• Ease of Use:
•Small learning chunks
•Linear progression
•Accessed by QR Codes
• Ease of Development
• Engagement:
•Interaction with content
•Interaction with learners
•Situated learning
Contribute to understanding of theory or examples of practice?
Robert Power
Needs
Teachers
Learners
Employers
Needs:
• ICT Tools
• Examples of Practice
• Pedagogical Guidance
• Minimal Time Commitment
• Minimal Pre-Training
• Minimal Cost
Response:
• Positive or Negative?
• Skills Development?
Needs:
• Want to use own devices
• EFL training
• Trades-related skills
• Course-specific content
• Soft Skills
Response:
• Positive or Negative?
• Would they use again?
• Could they see other applications?
Needs:
• Want employees to use own devices
• EFL training
• Trades-related skills
• Soft Skills

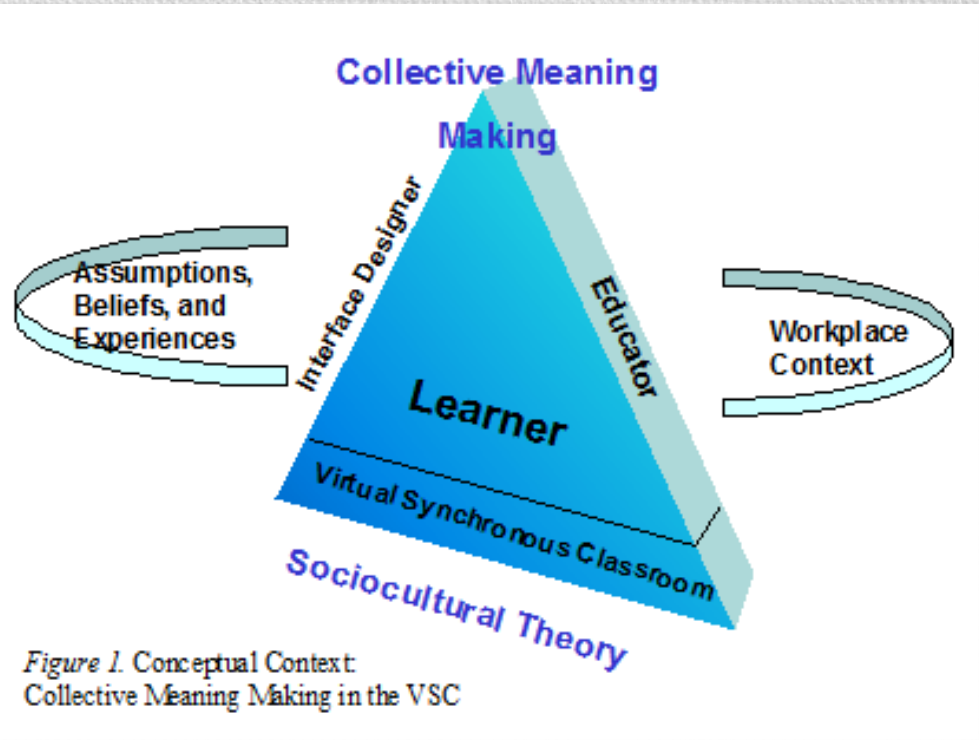


Figure 1. Conceptual Context: Collective Meaning Making in the VSC

A conceptual context (Figure 1) built on a sociocultural view of learning and knowing guides this study and integrates three intellectual conversations: sociocultural theory, collective meaning making within an online context, and the influence of assumptions and workplace context on learning. Consistent with a sociocultural perspective the apex of the model is represented by collective meaning making. The learning environment in which this will be explored is the virtual synchronous classroom (VSC). Kaye (1992) cautions that technology alone does not drive the success of online learning; social factors must also be considered. The learner, educator, and interface designer form the triad involved in an online learning experience and as such are the key participants in this inquiry. Taking into consideration that the learning process doesn't happen in a vacuum, this study will probe the critical influences of the workplace context as well as the eclectic array of beliefs about teaching, learning, and knowing that the triad carries with them to their online experience. Despite assertions that the Web finally enables a learner-centered approach (Duderstadt, 1999; Kearsley, 2000; Passerini & Granger, 2000; Perkins, 1991; Van Gorp, 1998), assumptions held by both the learner and educator may help uphold the transmission model, in spite of new media. (**Thompson, 2003, M.A. thesis**)

Theoretical and Conceptual Frameworks

WHY?

- "the practicality of conceptual frameworks is their capacity to introduce order in candidates' thinking process about the conceptual background and context of their research" (p. 103)
- a catalyst that raises the level of researchers' thinking such that they are conceptualising the research itself (p. 100)

(from Leshem & Trafford, 2007)

- should help you better understand the problem you are interested in studying. The process forces you to pin down what you want to study and why and how you are going to study it.

(from McDonald, Stodel, Thompson & Archibald, in-press)

How do I go about this?

- immerse yourself in the literature: narrow your focus to a manageable research topic and conceptualize the relationship between the different facets of the research issue/topic in which you are interested
  - from Leshem & Trafford, 2007, p. 99:
    - your early mapping of your CF will emerges from researchers' appreciation of reading, personal experience and reflection upon theoretical positions towards the phenomena to be investigated
    - reflects the researchers' paradigm
- think and reflect – hope for the "aha" moment!
- attempt to draw it: squares, circles, triangles, lines, arrows, boxes, spirals, and Venn diagrams are often used in conceptual frameworks. Play around with the arrangement of the elements.
- study others' CF
- expect an iterative process
- render it digitally and develop 6-10 sentences that concisely describe your CF: highlight the relationships between and among the different facets of the research issue/topic
- get feedback and continue to revise

(from McDonald, Stodel, Thompson & Archibald, in-press)

Conceptual Frameworks - discussion

Entry Points

- How would you describe the conceptual framework guiding your doctoral research?

References

Research Paradigms

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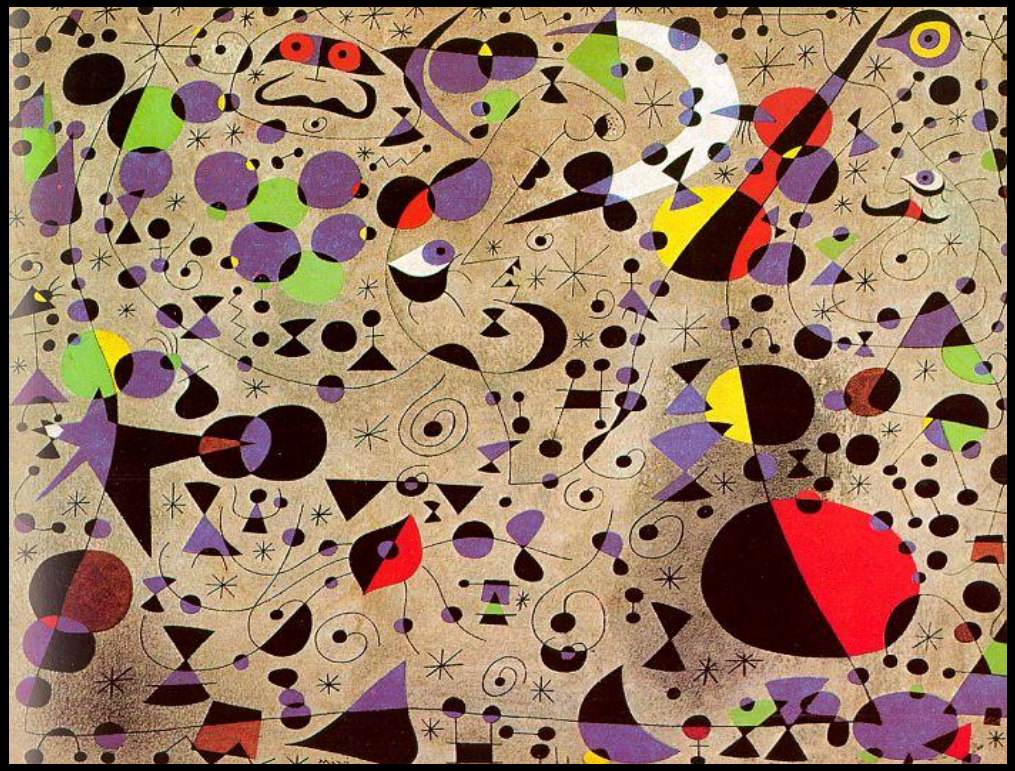

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