

Chronotopes, technology and learning

Studies in space-time management during ICT
mediated activities

ICT mediated activities

- Use of technology and design (Spinuzzi, 2004)
- Mediation and Activity theory
- The system of activity as unit of analysis
- The concept of context (Bateson, Cole)
- The use of context: reference to situate action (Suchman)

Multi-spaces

- The intelligent use of space (Kirsh, 1995).

“how we manage the space around us [then] is not an afterthought; it is an integral part of the way we think, plan and behave, a central element in the way we shape the very world that constrains and guides our behavior”

- Heterotopia

Heterotopia was described by Foucault (1967) as “juxtaposing in a single real place several spaces, several sites that are in themselves incompatible”.

- Selecting relevant spaces: The scene of an activity

Linked to the SPEAKING model by Hymes; the concept of script by Schank and the concept of “sceneggiatura comune” by Eco

Space-time as a whole: the concept of chronotope (Bakhtin)

- What kind of spaces participants use? How they construct the “scene”?
- When do they change the relevant space for the activity?
- How do these changes impact the tempo of the activity?
- How do the temporal dimension impact the selection of the relevant spaces?
- How is it possible to describe the whole space-time configuration of mediated activities often characterized by many “changes of scene”?

Understanding chronotope in specific context

- Collaborative activity mediated by CoFFEE
- Collaborative activity mediated by KPE (??)
- Coauthoring of scientific (??)

An initial elaboration

Chronotopes	Adagio	Andante	Allegretto
Main features	<ul style="list-style-type: none"> - Activities perceived as complex - Possible inexperience (new tools or new activities) - Possible inefficient configuration of participation - No time restriction - Need to explore more semiotic resources 	<ul style="list-style-type: none"> - Activities perceived as complex - Possible inexperience - Flexible configuration of participation - No much time available - Familiar semiotic resources 	<ul style="list-style-type: none"> - Activities perceived as simple - Expert participants - Efficient configuration of participation - No much time available - Well-known semiotic resources
Possible results	<ul style="list-style-type: none"> - Slow flow of action - Deep reflection - Wide exploration of the context - New context or new activities 	<ul style="list-style-type: none"> - Acceleration of the action flow - Shallow reflection - Concentration on a few conceptual/contextual elements - Appropriation of new context or new activities or new configuration of participation 	<ul style="list-style-type: none"> - Fast flow of action - Effective and fast solution of the problem/achievement of the aims - Becoming competent in interacting with the context

Some open questions

- How to describe some aspects of space-time management not linked to the tempo of the activity? (i.e. Qualitative differences in space-time management related to the genre of activity, or to some features of the activity system)
- How to distinguish the micro-level space-time management from the macro-level? (3 levels used by Kirsh)
- How to differentiate novices' space-time management from expert chronotopes?

Expertise and chronotope

- How do experts learn to use context in an expert way?
- How do expert and novice use of technology differ in terms of space-time management?
- How can we understand the elaboration of expert chronotopes?

Which methodology?

	Micro-level of analysis (short term)	Macro-level of analysis (long term + longitudinal study)
Implicit space-time management (observer perspective)	Participant observation/video analysis/screen recording	Participant observation/video analysis
Voluntary space-time management (participant perspective)	Participant observation/video analysis/screen recording/Narrative interview	Event sampling/narrative interview/screen recording