IIQM-ATLAS.ti Qualitative Methods Master Class Webinar Series
Complexity theory: What is it and how can I use it?

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Aims

• 1. Understand the complex versus the complicated
• 2. Outlines main principles of complexity theory
• 3. Applying to real research

Complicated
Key principles of complexity theory


Complexity in the applied Social Sciences

Chaos Theory
- Dynamic systems theory
- New Social Systems Theory
- System Dynamics
- Emergence
- Self-organization
- Multi-agent modelling
- Neural networking
- Data mining

Castellani & Hafferty (2009)

Stratification

Linear Causation

Sedentary person + exercise program = Regular exercise
Generative Causation

- Generative

Change and evolution
Learning and adaptation

Distributed control

Emergence
Demi-regularities

Applying complexity theory to research


Outcomes are important....

Formal rules and Structures

• ....theorize
What are the components?

- Wholes
- Parts

What are the sub-components?

- Some things matter
- Other things don’t

Spot the difference.

What else affects outcomes?

- The variations that exist within laws and structures
  - Exceptions
  - Variations
What else can affect outcomes?

- The context
  - How context interacts with parts

What else can affect the game?

- Extraneous internal and external less predictable factors

Recap on complexity

- Outcomes and explaining them
- Parts and subcomponents
- Complex and dynamic interactions between parts and context
- Role of extraneous and unpredictable factors
- Need for understanding of outcomes

But how to apply?

http://dx.doi.org/10.1016/j.socscimed.2012.03.035
Conclusions

- Complex versus Complicated
- Games, sports, economy, organisations...
- Principles useful to health research
- Applications in intervention research

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Discussion

What ways have or can you apply concepts from complexity theory to your qualitative research?
The next IIQM Webinar

Proposing a new method for computer-assisted qualitative data analysis

Dr. Susanne Friese

February 28 1:00 pm MST