THEORETICAL CONSIDERATION OF THE EFFECTIVENESS OF CONCEPT MAPPING IN INTERPRETIVE SENSE MAKING RESEARCH

Maureen O'Connor, Doctoral Researcher, University of Birmingham
School of Government & Society, United Kingdom
mxo777@bham.ac.uk

Abstract: This paper argues that concept mapping is a highly effective research tool in capturing and relating the relationship between knowledge and action within an interpretive, sensemaking research framework.

1   Background

Sense making theory has been used to determine the extracted cues that individuals draw on, in making sense of events and experiences as part of a socially constructed reality. These frameworks of reference inform a sense of identity and subsequently action, at an individual, collective and organisational level. Sensemaking occurs when there is a dislocation or shift in expectations, taken-for -granted patterns of behaviour or emergence of new ideas and concepts. This paper suggests that concept mapping provides the opportunity to record and explore defining and redefinition of schemata, and to share tacit sensemaking processes on a collective and organisational level

2   Requirements for sensemaking research

In examining the sense making paradigm, (Weick: 1979, 1995, 2009, Dervin: 1983, 1998, 1996, Pirolli & Card 2005), in operationalising sense making in an interpretive framework, the need for an appropriate research method dictates the following requirements:

a. Provide a means of recording meaning-making – the 'deliberate perspective'. (Snowden 2005:46) in other words, the selection of specific frames of reference that create a plausible, individually understood, socially constructed reality. They select and bracket series of events and experiences together to create specifically referenced meaning (Choo 1998:70)

b. Illustrate the relational qualities of concepts- illustrating the cognitive structures referenced in meaning making and the continued refinement of conceptual understanding as new knowledge emerges

c. Aid identification of anomalies and integration in collective cognition.- exploring the levels of homogeneous thinking and integration of disparate ideas into collective cognition and action

d. Explore conceptual emergence through continuous construction of individual and group schemata

e. Define contextually bound definitions and meanings- the structural components of institutionalised considerations that express typified actors, typified situations and typified expectations of performance or conduct (Weber & Glyn 2006 1645)

f. It must be capable of identifying and recording the sense making characteristics identified by Weick: grounded in identity construction, retrospective, enactive of sensible environments, social, ongoing, focused on and by extracted cues, driven by plausibility rather than accuracy (1995:17),

g. Researcher conceptualisation of a particular worldview is inherent within the selection of any given method, and presents a bounded rationality which the researcher needs to make explicit in order to acknowledge the double hermeneutic of participant and researcher agency at work (Yanow & Schwartz-Shea 2006:209).

3   Benefits of a concept mapping approach in sensemaking research

As a visually graphic representation of conceptual relationships, (Novak & Gowin 1984) the adoption of concept maps provides an important facility in eliciting the relationships in perceptual frameworks between cues, relationships and frames of reference (Weick 1995: 110). Both start from an individual perspective and recognise the relationship between knowledge, belief and behaviour. Mapping contributes to a sense making approach to research as it can:

▪ Provide a means of recording meaning-making: By representing conceptual knowledge, concept maps illustrate the boundaries and considerations that contain decision-making and action of

individuals. They provide an understanding of the legacy of previous experience and how that influences current understanding in terms of environments. This is crucial to Weick's view of 'enactment' in which action and stimulus are interdependent. This complex and continuous iteration of events and understanding can be recorded through longitudinal mapping exercises to identify change in process through changes in represented knowledge and understanding

- Illustrate the relational qualities of concepts: By identifying cross-links to illustrate the interrelationship of constructs, and by combining individual maps to create collaborative representations of group understanding, the concept map supports Weick's concept of collective cognition whereby emerging patterns are articulated, explored, challenged and redefined within a group context as the precursor to action

- Aid identification of anomalies and integration in individual and collective cognition: By reflecting on maps as they are produced, the research participant reviews the validity of the referencing framework as part of the mapping process. This iterative stance redefines the analogies in a more inclusive way or identifies the emergence of new concepts or idiosyncratic, possibly automatic behaviour, (borne of outdated policies and procedures).

- Explore conceptual development: Repeating the mapping process over time and overlaying on previous mapping exercises can illustrate the development of conceptualisation from emergent (Piaget describes this as intuitive thought and it heralds the stage of primitive reasoning) ideas to fully constructed and relational conceptualisation. In creating and analysing the researcher's own conceptual frameworks, it affords her/him the ability to track their own understanding of new theoretical insights generated by the research.

- Provide a means of identifying the 'collective mind' or group cognition: By analysing maps of individuals, a sense of group identity can unfold; a social context can be identified that is collectively recognised.

- Define contextually bound definitions and meanings- patterns of behaviour can be traced through synergistic frameworks that bound action and behaviour. This can be detected on an individual basis across a series of maps or across the collation or development of group maps. For example, drawing a map and reflecting on the content may trigger a reflection on automaticity, where the elements of daily life are influenced by situational influences (Bargh 1996)

- In addition, the use of concept mapping in an interpretive framework enables the researcher to create a degree of transparency about their research by mapping prior knowledge and understanding at various stages throughout the project. By declaring a visual representation of ontological frames of reference, the researcher clarifies the theoretical and philosophical basis upon which their contribution to knowledge fields are being made.

- One of the key requirements should be the facility to check the reliability of the data and anomalies in some way. 'The purpose of interpretive research… is not model testing, but is the understanding of human meaning-making in context: the goal is not to erase ambiguities, but to understand their sources' (Schwartz-Shea & Yanow 2012:108)

- Iterations of maps enable the recording of reconceptualisation as frameworks are influenced by change.

- There has to be a means of cross-referencing and analyzing concepts to identify similarities of meaning or the trail of disseminated thinking: for example, policy concepts may be variously defined according to how close to the policy development process an individual has been exposed, whereas the concept may be referenced at an operational level but linked to a different framework of meaning; define their decision making in their own terms.

Fig 1 illustrates the cross-linking between the properties of sensemaking theory, the demands of the researcher for a method that satisfies the demands of a qualitative interpretive research project to the attributes of concept mapping.
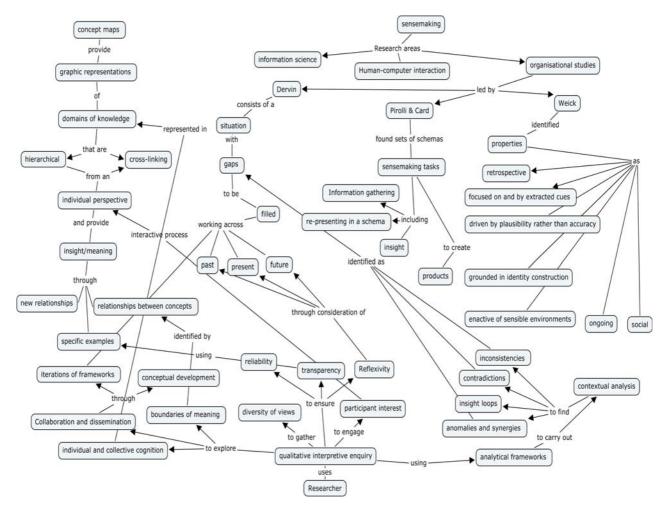
Figure 1. The use of concept mapping in sensemaking research

4   References

Bargh J.A. 'Principles of Automaticity: Awareness, Intention, Efficiency and Control in Social Cognition' in R.S. Wyer & T.K. Krull (eds) Handbook of Social Cognition (2nd ed) pp 1-40.

Choo, C.W (1998) The Knowing Organisation: How organisations use information to construct meaning, create knowledge and make decisions 2nd edition p70 New York: Oxford University Press.

Dervin, B. (1998) 'Sense-making theory and practice: an overview of user interests in knowledge seeking and use', Journal of Knowledge Management Volume 2:2 December.

Novak, J.D. & Caňas A.J. 'The Theory Underlying Concept Maps and How to Construct and Use Them' Florida Institute for Human & Machine Cognition Technical Report IHMC CmapTools 2006-01 Revision 01-2008 www.ihmc.us.

Novak, J.D. & Gowin, D.B. (1984) Learning How to Learn New York, Cambridge: University Press

Peck, E. & Perri, 6. (2006) Beyond Delivery. Policy Implementation as Sense-making and Settlement London, Palgrave.

Pirolli, P & Card S. (2005) 'The Sensemaking Process and Leverage Points for Analyst Technology as Identified Through Cognitive Task Analysis', Artificial Intelligence 2005.

Schwartz-Shea, P. & Yanow, D. (2012) Interpretive Research Design Concepts & Processes. London, Routledge

Snowden, D.J. (2005) 'Multi-ontology Sense Making: A New Simplicity in Decision Making'. Management Today Yearbook Volume 20:46 www.kwork.org/stars.

Weber, P.S. & Glynn, M.A. (2006) Making Sense with Institutions: Context, Thought and Actions in Karl Weick's Theory Organizational Studies November 2006 vol. 27 No 11 pp1639 -1660.

Weber, P.S. & Manning, M.R. (2001) 'Cause Maps, Sensemaking and Planned Organizational Change', Journal of Applied Behavioural Science 37:227.

Weick, K.E. (1979) The Social Psychology of Organizing Reading MA: Addison-Wesley.

Weick, K.E. & Roberts, K.H. (1993) 'Collective Mind in Organisations: Heedful Interrelating on Flight Decks', Administrative Science Quarterly 38: 357-381.

Weick, K.E. (1995) Sense making in Organisations London, Sage.

Weick, K.E. (2009) Making Sense of the Organisation. The Impermanent Organisation Volume 2 London: Wiley.

Yanow, D & Schwartz-Shea, P. (2006) (Eds) Interpretation & Method: Empirical Research Methods and the Interpretive Turn. New York: M.E. Sharpe.