EMOTIONAL ENERGY: A RESOURCE FOR SENSE-MAKING IN SCIENCE LEARNING

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Introduction & Aim

- As a conceptual description, emotional energy is an outcome of successful social interaction, observable as an individual and collective experience evident by observing the content and fluency of gestures and conversation in real-time classroom learning (Davis and Bellocchi 2018).

- As a social phenomenon it may be observable in many ways such as the mutual entrainment of bodily orientations, the autonomous fluency of movements between interacting people, the convergence in rates of speech or one person completing another's sentence in conversation.

The aim of this paper is to explore the treatment of emotional energy in science education research informed by ethnomethodology.

How do I Identify Ethnomethodology?

- Ethnomethodology involves the study of everyday activities by describing peoples' methods for making those same everyday activities visible, rational, reportable and accountable as the everyday organization "of common sense knowledge" about the structure of social reality (Garfinkel, 1967, p.vii).

- The peoples' methods are identified by Garfinkel (1967, p.1) as "observable and reportable… situated practices of looking and telling."

Illustration:

- Topic: The formal account of what is being said or done.

- Resource: Interaction participants microsocial practices are the resource through which sense is made.

- The focus of ethnomethodology is on the resources not the topic. That is, how does the topic come to exist in a particular occasion of its performance.

How do I Identify Ethnomethodology?

- Differences between ethnomethodology and conversation analysis.

- Liberman (2007, p.42) points to many of the contemporary *conversation analysis* approaches to ethnomethodology as being so routinised with "standards and conventions" that it has become a positivist methodology.

- "The Local Orderliness of Crossing Kincaid" (Liberman, 2013).

- "Choreographing the Orderliness of Tibetan Philosophical Debates" (Liberman, 2013).

- Livingston's (2006) study of checkerboard reasoning.

A Case Study: "Objectivity, Subjectivity, and Emotion in School Science Inquiry" (Davis and Bellocchi 2018)

The aim of that study is framed as:

- "How does objectivity come to exist through the performance and experience of social practices in a school science inquiry?

- Emotional energy is not viewed by the researchers as an *a priori* theory that is laid over the data in an interpretive manner.

- Instead EE is treated as a social phenomenon that may unfold in a manner specific to the situation being studied.

- Emotional energy is treated as a social phenomenon, just like gesture and conversation.

The Issue of Interpretive Framework or Participant Resource

In the case study:

- Emotional energy became evident through autonomous, self-coordinating practices of restraint and self-prohibition. A social phenomenon that Durkheim (1912/2008) referred to as *respect*.

- Objectivity was evident through practices of observation unfolding over time and involving participant experiences of physical withdrawal from the materials they were mutually entrained upon: Silences, bodily alignment, refraining from touching, and gazing at shared objects.

- Evident with a change in language, from everyday talk about cups of tea, to discussion about scientific concepts such as *currents* and *convection*: questioning one another, seeking new descriptors, rejecting some words not through logical argument but through parody and laughter, accepting other words.

- Shift in language evidences restraint or self-prohibition, treating the objects not as everyday things, but as things that are describable and knowable with concepts from a culture of science.

- These practices did not emerge from any formal agreement but became evident through participant actions: restraint, prohibition and sanctions that were self-imposed and mutually enforced.

Concluding Comments

- The present paper attempts to unpack these issues in view of Ken Liberman's (2007) study of "Dialectical Practice in Tibetan Philosophical Culture: An Ethnomethodological Inquiry into Formal Reasoning."

- The methodological challenge is how to position the researcher in relation to emotional energy as a phenomenon, when unlike gesture and conversation, emotional energy is even less evident to participants or other researchers.

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