Bringing the Social to Team Science

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The Past

Welcome to our Action Research Project

We are conducting a "live" discourse and dynamics analysis of participants' interactions during the Science of Team Science Conference, in order to explore relationships between
a) the structures and processes of generating knowledge about working in teams with
b) the content of knowledge shared during the conference.

Roles in the Conference:

This action research project was authorized by the conference program committee upon acceptance of our poster proposal. We are participant-observers with the task of alerting conference participants to indicators of the boundary between process and content. We conceive of our role as equal team members in a scientific investigation of the social in team science.

We invite you to self-select and join the project.

Assumptions and Hypotheses

We want to study the dynamics and discourses among people in the conference to learn something about the relationship of the social to science. We assume that the precepts of normal science (Kuhn 1962/1996) are not being questioned in any fundamental way. Our initial hypotheses are based upon previous experience of academic conferences and a close reading of STS conference materials (CFP, website, and Concept Mapping Project).

Methodology

This action research project is designed to guide us through a cycle of the production of knowledge about the social in team science. We conceptualize the social as essentially relational (Emirbayer 1997) and nested – composed of dynamic self-organizing systems occurring simultaneously in multiple timescales (Streek & Jordan 2009).

Object of Research:

We study the conference as a large group event that appears to be a traditional conference
- emphasizing didactics (not interaction)
- focused on interdisciplinarity,
- is "historical" – the first of its kind in scope and scale, and
- with a dual mission of "empirically examining processes" and "understanding how teams connect and collaborate to achieve scientific breakthroughs that would not be attainable by either individual or additive efforts" (conference website, emphasis added).

Our hypotheses are:

1. The quality of content produced is directly related to the amount of attention paid to process issues.
2. It is very difficult to pay attention to content and process at the same time.
3. Nonetheless, events occur during the work of team members that signals the presence of process; these signals can be understood as cues to shift attention from content/task accomplishment to relational/process matters.
4. Groups and organizations are in a constant state of flux. You need a great deal of organization and energy to sustain continuity. This is accomplished though power relations embedded in the social.

Communicating with each other is the transactional process by which we generate the social. Please:

- Participate in our poster activity,
- Contribute to the twitter stream **#teamsci10**, and
- Comment on the conference blogposts: **www.reflexivity.us**.

The Present

The How

OBSERVING & DESCRIBING
Conference members experience working together to learn about team science. They share observations about the group's dynamics, talk and behaviours.

Working together as a conference: The learning cycle

MAKING DECISIONS & TAKING ACTION
Conference members decide what to do next: how to use the new insights, what patterns to confirm, what new questions to ask, what changes are needed in the conference design.

REFLECTING & SHARING
Conference members tell each other about images, feelings, and ideas experienced while working together. They puzzle over what may be figural, relational, or patterned, seeking themes, trends, and correlations to investigate further.

INTERPRETING & CONCEPTUALIZING
Conference members communicate about perceived patterns, assess relative significance, articulate new insights, use current theory or develop new ones.

THE DOUBLE TASK OF THE CONFERENCE

The What

OBSERVING & DESCRIBING
Conference members describe and present their findings about team science to each other.

Producing knowledge in a conference: The learning cycle

MAKING DECISIONS & TAKING ACTION
Conference members decide what to do next: how to use the new insights, what experiments to design to test hypotheses, what new questions to generate.

REFLECTING & SHARING
Conference members think and talk about knowns and unknowns in the data. They discuss what is figural, relational, or patterned, selecting themes, trends and correlations to investigate further.

INTERPRETATING & CONCEPTUALIZING
Conference members assess the significance of the selected patterns; formulate hypotheses; articulate new insights; use current theories or develop new ones.

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Derived from Kolb's Learning Cycle, 1984

The Future

DATA COLLECTION ACTIVITY

Please take post-it notes and respond to these questions. Indicate the number of the question with your answer, then place it on the double-task diagram where it seems to best fit.

1. What was your most important learning in this conference regarding the relation between process and content?

2. Describe any instances when the social became apparent or important to you during this conference. Briefly explain the circumstances and any resolution.

Conference Paper

We will write up a description of our experience of the Science of Team Science conference, interpreting data collected from interactions with conference members face-to-face, via weblog and twitter, from our diagram activity, the content of presentations, and the social networking workshop. We will assess insights generated by the action research design and heuristic model of a group's double task.

Using Parallel Processes to understand hidden dynamics in groups

Parallel processes are the unaware/subconscious processes that occur simultaneously among a member of a group (or sub-group of members) and the group-as-a-whole. Communicating intuitions about internal processes in relation to the team can inform the group's functioning, enabling a better understanding of the team's hidden dynamics, such as:

- Relations to authority
- Informal norms
- Attitudes/approaches to learning and criticism
- Dealing with failure
- Patterns of dependency and independence
- Vulnerability
- Anger/jealousy
- Patterns of communication
- Major roles and legitimated voices, e.g., who can speak; who's ignored?
- Dealing with resistance
- Phases: start, middle, close
- Main anxieties
- Wishes, and how to get there
- Uses of language, e.g., recurring phrases

Further Action Research on Individual Cognition and Group Consciousness

We would like to partner with researchers in neuroscience in order to continue action research of correlations between evidence from the social (discourse & dynamics) and patterns in cognition (e.g., attention & insight).

The problematic moment approach

Can you recall an instance when something happened in a team you were working in and you didn't know what to say or, you knew what you ought to say, but didn't? Perhaps someone said something and everyone became silent; someone changed the subject; you felt anxious, angry, or sad; you could feel the group tension; you wished you had done something differently; maybe you felt upset afterwards, without clarity as to why.

Problematic moments are moments when things appear to be going wrong or in an unexpected direction in a group. It seems like the group has reached a kind of impasse and does not know, perhaps just for a few seconds, how to go on. Capturing and analyzing these occurrences in everyday teamwork enables members to break through hierarchically-imposed and over-simplified organizational discourses in order to generate alternative ways of perceiving social interactions. The problematic moment approach provides stakeholders with the opportunity to collaborate laterally across their differences and to agree on measures for improving, and possibly transforming, the design of their work.

Moments of silence frequently occur in group conversations and interactions. These silences can have many possible meanings depending on the context. A silence may indicate that the group is enjoying a moment of reflection, or that it is waiting for the appropriate person to respond to a question, or that it has said all that can be said about a theme and is ready to take up another topic. Problematic moments are unlike other moments because they mark a brief point in time when the conditions of possibility for the group to have new, more productive, and deeper conversations can be realized.