Coding for Unique Ideas and Ambiguity: A Method for Measuring the Effect of Convergence on the Artifact of an Ideation Activity

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ABSTRACT

Groups can generate so many ideas during a decision making process involving brainstorming that they become an impediment to group processes. Convergence activities reduce the number of ideas generated by the group and clarify those ideas, allowing the group to move forward with a set of ideas worthy of further attention. Research about convergence and its affect on collaboration is in the early stages. To further this research, measures of convergence are developed in this study as part of an assessment of the effects of convergence on an ideation artifact produced by managers attempting to solve an actual business problem. This paper presents a method for quantifying the reduction and clarification that has occurred through convergence using an assessment of a pre- and post-convergence artifact. This study expands upon understanding of collaboration by presenting the method of characterizing the convergence artifacts.

Keywords: Collaboration Engineering, Convergence, Decision Making, Disaggregation, ThinkLets

INTRODUCTION

Groups consisting of multiple stakeholders with diverse backgrounds, varying degrees of expertise, and with differing, possibly conflicting goals must often work together to make sense of complex problems (Weick, 1993), to make decisions, and to negotiate solutions in domains such as software engineering (Boehm, Grunbacher, & Briggs, 2001; Fruhling & de Vreede, 2006), business process reorganization (den Hengst & de Vreede, 2004; Dennis, Hayes, & Daniels, 1994) and strategic decision making (Vennix, Akkermans, & Rouwette, 2006).
Collaboration can be challenging, more so when decisions must be made without a clear understanding of the causes of current conditions and of potential consequences for proposed courses of action. Collaboration experts like professional facilitators, who have specialize collaboration knowledge and skills, can substantially improve group effectiveness and efficiency, but professional facilitators can be expensive, and are not always available to a group (Briggs, de Vreede, & Nunamaker, 2003). Collaboration Engineering (CE) is an approach to designing collaborative work practices for high-value recurring tasks and deploying those work practices to practitioners to execute for themselves without ongoing intervention from professional facilitators (Briggs et al., 2003).

A key goal of collaboration engineering is to distill and codify knowledge and skills into small, easily learnable concepts that non-professionals can readily use. Toward that end, CE researchers identified have six patterns of collaboration that manifest as groups work through a problem-solving process. These patterns characterized the effects of group effort as changes-of-state. The patterns are (Briggs, de Vreede, & Massey, 2008):

- Generate: move from fewer to more concepts.
- Reduce: move from more to fewer concepts deemed worthy of more attention.
- Clarify: move from less to more shared understanding of concepts.
- Organize: move from less to more understanding of relationships among concepts.
- Evaluate: move from less to more understanding of the instrumentality of concepts toward goal attainment.
- Build: commitment: move from fewer to more stakeholders willing to commit to a proposal.

Some authors combine the reduce and clarify patterns under the more general heading, Convergence (Davis, de Vreede, & Briggs, 2007).

A great deal has been learned about the Generate pattern of collaboration, often called brainstorming or ideation (Diehl & Stroebe, 1987, 1991; Fjermestad & Hiltz, 1999; Fjermestad & Hiltz, 2001; Graham, 1977; Kolfschoten & Santanen, 2007; Lindgren, 1967; Osborn, 1963). Likewise, there are strong researcher streams about building commitment, e.g. team-building (Marks, Zaccaro, & Matthieu, 2000), negotiation (Boehm et al., 2001), and consensus building (Dunlop, 1984; Innes & Booher, 1999; Rosenau, 1962). However, the understanding of the convergence pattern is in its beginning stages.

Convergence patterns of collaboration are useful, as they often follow ideation activities which occur frequently. Often, groups generate more ideas than a group will find useful. In fact, some ideation techniques encourage group members to contribute poor ideas in addition to good ones (Osborn, 1963). A group will find it beneficial, therefore, to have a means of focusing on a reduced set of ideas. In the knowledge economy, attention may be the group’s, as well as the organization’s, scarcest resource (Davenport & Völpel, 2001). Because they free up a group’s attention for the most important issues, convergence activities become especially significant.

In order to measure the effectiveness of technology, we have to measure the value it produces for users. To evaluate technology used for convergence activities, we must be able to measure convergence effects. We therefore perform an exploratory study of technology-supported convergence. Research in this area is critical to better understandings of collaboration because activities that fall under the convergence pattern of collaboration are amongst the most difficult for facilitators to execute (de Vreede & Briggs, 2005), and group members find convergence activities to be a painful and time-consuming (Chen, Hsu, Orwig, Hoopes, & Nunamaker, 1994; Easton, George, Nunamaker, & Pendergast, 1990).

Researchers have begun to delineate concepts to explore the process and results
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