Openness, curiosity and respect: Underlying conditions for developing innovative knowledge and ideas between disciplines

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A R T I C L E   I N F O

A B S T R A C T

Based on an ethnographic study of three multidisciplinary groups working with innovation – two groups in a large oil and gas company and one group in a Norwegian research institute – this paper investigates the building of innovative knowledge and the underlying relational conditions involved. The research question is: How is knowledge built at the boundaries between different disciplines? Drawing on Edwards' work on relational expertise and Bakhtin's dialogical principles the article presents analyses of thick descriptions from observations, field conversations and formal interviews. Main findings indicate that when group members from different disciplines construct a common knowledge platform during the development of innovative ideas they require the ability to recognize and build on each other's competences. This process is aided by having openness, curiosity and respect for each other's views, suggesting that it is not sufficient to assemble people with special expertise from different disciplines; they need additional relational skills for collaboration and accomplishing knowledge building.

1. Introduction

This article investigates how knowledge is built at the boundaries between different disciplines in multidisciplinary groups and identifies some of the underlying conditions involved for this to be accomplished. The groups that are the focus of the study are working in the initial part of an innovation process, ideas development.

Organizational creativity is closely connected with innovation and can be defined as "the creation of a valuable, useful new product, service, idea, procedure, or process by individuals working together in a complex social system" (Woodman, Sawyer, & Griffin, 1993, p. 293). Working across boundaries is often regarded as a key ingredient to competitive advantage where innovation is a desired outcome (Carlile, 2004). Thus, multidisciplinary groups, consisting of people with different and highly specialized expertise from different disciplines, are brought together to share and create knowledge and work with innovation. Knowledge is, therefore, crucial to innovation and there has been considerable research into the various aspects of knowledge creation in organizations (Carlile, 2002; Hargadon & Sutton, 1997; Nonaka & von Krogh, 2009).

Nonetheless, organization theories have not tended to focus on knowledge creation and innovation as social processes between individuals (Elkjær, 2004; Johannessen, 2005; Stacey, 2001; Wadel, 2006). In particular the relational aspects of those processes when people work across disciplinary boundaries appear to require more attention (Ness & Søreide, 2014; Nonaka & von Krogh, 2009).

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Although several scholars have highlighted the lack of focus on the collaborative aspects of creativity (Hargadon & Bechky, 2006; Kurtzberg & Amabile, 2001; Sawyer, 2006; Sternberg & Lubart, 1999), others have tried to explore collaborative creative work (Drazin, Glynn, & Kazanjian, 1999; Hargadon & Bechky, 2006; Hargadon & Sutton, 1997; Mumford & Licuanan, 2004; Sawyer, 2006). Seen from a socio-cultural perspective this type of creative work involves situated interactions between members working together in a shared context involving collaboration (Glăveanu, 2010; John-Steiner, 2000; Miell & Littleton, 2004; Paulus & Nijstad, 2003; Sawyer, 2006). Vera John-Steiner (2000), for example, claims that creative groups engage in mutual appropriation, while according to Lam (2005) collective knowledge exists between rather than within individuals. These approaches describe different aspects of the interdependence needed for collaborative work and they build on or connect with Vygotsky's cultural-historical idea of creative activities as being fundamentally social.

In this paper we investigate knowledge building between members of multidisciplinary groups when developing new ideas for their companies. The group members met at the boundaries of their different disciplines to build knowledge. The study reported here addressed the question: How is knowledge built at the boundaries between different disciplines? In particular the study was concerned with the underlying relational conditions which enabled the processes to happen.

A cultural-historical understanding of practices regards them as historically accumulated, knowledge-laden, emotionally freighted and given direction by what is valued by those who inhabit them (Edwards, 2010). From this perspective practices are inhabited, activities take place in them and actions in activities can provide evidence of how actors are interpreting and responding to demands in these activities. This view of practices allows us to conceptualise inter-disciplinary collaborations as sites where different practices with different histories, knowledge and values meet, as sites of intersecting practices (Edwards, 2010).

The study reported here shows how experts from different practices build new knowledge and ideas in three different multidisciplinary sites of intersecting practices. The groupings consisted of people from different educational and disciplinary practices, experiences, and backgrounds, such as an engineering department and a contract department, who came together to tackle specific problems and develop innovative ideas.

These professionals were therefore meeting at the boundaries of their specialist practices. According to Kerosuo, boundaries are spaces and opportunities to connect both what is familiar and what is unknown (Kerosuo, 2001); while Edwards describes them as spaces where the resources from different practices are brought together to expand interpretations of multifaceted tasks, and not barriers between the knowledge and motives that characterize specialist practices (Edwards, 2011). Importantly, according to Edwards, the learning that occurs in such spaces is not a matter of learning how to do the work of others. Rather it involves gaining sufficient insight into the purposes and practices of others in order to enable collaboration. For Edwards, the key to collaboration in sites of intersecting practices is understanding the motives that are central to each practice. Using the term "what matters", she argues that inter-professional and inter-disciplinary collaborations are helped by the development of common knowledge (Edwards, 2010, 2011, 2012). That common knowledge consists of knowledge of the motives or what matters in each contributing practice. The common knowledge that is built then mediates negotiations across practice boundaries and enables collaboration. Building and using common knowledge is evidence of what Edwards describes as relational expertise, the capacity to take the standpoint of the other.

At the same time one cannot assume that there will be benign agreement when motives are revealed. Collaboration across practice boundaries usefully involves tension due to differences between the disciplines: according to Mikhail Bakhtin's (1984) dialogical principle, knowledge and meaning is created in the tension between different voices. Bakhtin (1984, p. 293) defined voice as "a person's worldview and faith." Along similar lines Per Linell (2009, p. 116) interprets voice as "an expressed opinion, view or perspective, something that the person would typically say and presumably stand for." The cultural historical approach taken in the present study also reflects these views. For example, Wertsch has argued that meaning making occurs when different voices, different world views or perspectives get in touch with one another (Wertsch, 1991). In the study reported here the focus was on speech as action in the activity of knowledge building in sites of intersecting practices, making the resources offered by Bakhtin quite central to the analysis of how knowledge is built at disciplinary boundaries.

The outline of the paper is as follows: first we report earlier analyses of knowledge construction in the present project. Second, we describe the theoretical framing employed in the discussion of findings. We then indicate the data collection and methods of analysis. Next findings are presented and are summed up in a model. Finally, we reflect on how the ideas of relational expertise, common knowledge and dialogue informed interpretations of the processes revealed in the data.

2. Stages in knowledge construction in the project

The data were collected in an ethnographic study of three multidisciplinary groups: the first worked with strategy development in an international oil- and gas company; the second group worked with innovation in the same company; and the third was a group in a
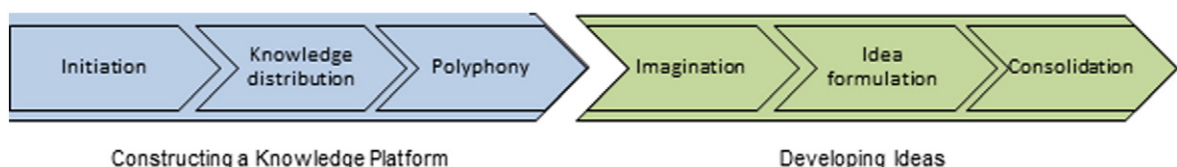

Fig. 1. The six phases and the link between knowledge creation and idea development (Ness & Søreide, 2014).