Knowledge management is in transition. The first theories of knowledge management used the knowledge-carrying individual as the unit of analysis and defined knowledge in terms of discrete skills that can be codified and measured. The key idea of the second-generation theories is that knowledge is embedded in and becomes constructed in collective practices. The challenge is to support the generation of new knowledge and competencies. In this chapter, we will develop further the second-generation competence-management ideas by applying cultural historical activity theory. We will present a new method, the Competence Laboratory, and report the results of its pilot use in a telephone company. With this method, a team of technicians managed to create new forms of joint learning and expand its network of cooperation for learning.

INTRODUCTION: KNOWLEDGE MANAGEMENT IN TRANSITION

In the latter half of the 1990s, knowledge management has become arguably the most dynamic issue in literature on management and organizations. The important books by Nonaka and Takeuchi (1995) and Leonard-Barton (1995) were followed by a number of others, including those by Allee (1997), Boisot (1998), Choo (1998), Davenport & Prusak (1998), von Krogh & Roos (1996) von Krogh, Roos & Klein (1998), Myers (1996), Ruggles (1996), and Sanchez & Heene (1997). The key message of these works is that “the
only sustainable advantage a firm has comes from what it collectively knows, how efficiently it uses what it knows, and how readily it acquires and uses new knowledge” (Davenport & Prusak, 1998, p. xv).

An important predecessor of the present literature was the analysis of the core competencies of a firm presented by Prahalad and Hamel (1990; Hamel & Prahalad, 1994). Core competencies are well-defined bundles of skills and technologies that enable a company to generate innovative products. Core competencies are often broken into sets of specific component skills. This easily leads to long, static lists of skills. Other standard implementations of knowledge management have been various techniques of knowledge and competence mapping and the creation of large company-wide databases or knowledge repositories. These, too, tend to become schemes of classification and storage, which do not solve “the problem of providing incentives for people to part with treasured proprietary knowledge, such as sales hints and product ideas” (Lillrank, 1998, p. 3). Finally, the first wave of knowledge management includes attempts to codify and measure the overall knowledge assets of a company, to be included in a “balanced scorecard” or other such framework of accounting for the “intellectual capital” of the firm (Edvinsson & Malone, 1997; Stewart, 1997; Sveiby, 1997).

Allee (1997, p. 218) aptly summarizes the current situation in knowledge management:

“We cannot solve our Knowledge Era questions with design approaches that came out of Information Age thinking. The current state of practice in ‘knowledge mapping’ is cumbersome at best. In worst case situations, people are spending much time and resources in an exercise in futility. They lose sight of the self-organizing capability of knowledge. When we don’t understand knowledge as a system, we often just get in the way.”

The above-mentioned attempts and techniques may be categorized as examples of the first generation of knowledge management. The first generation is largely characterized by (a) using the knowledge-carrying individual as the unit for mapping and enhancing knowledge; (b) defining knowledge as discrete skills or assets that exist, or are required, in the company and can be identified, codified and measured; and (c) using an external, outsider’s “objective” point of view in analyzing knowledge and competence. The limits of this stance are becoming increasingly obvious as the life cycles of products and technology become shorter.

The key idea of the second generation is that knowledge is embedded and constructed in collective practices. As Brown and Duguid (1998, p. 2) put it, this leads us “to attend less to the things people apparently know, the information they possess, than to what they actually do—to their work practices.” These practices include communication where knowledge is articulated, represented and transferred by means of talk, text, etc. Accordingly, a number of management theorists involved in the construction of the second-generation knowledge management have taken up Lave’s and Wenger’s (1991) idea of using communities of practice as the prime unit for analyzing knowledge and learning (Allee, 1997, p. 218-219; Choo, 1998, p. 118; Davenport & Prusak, 1998, p. 38-39).

Communities of practice are characterized by mutual engagement, joint enterprise, and shared repertoire (Wenger, 1998, p. 73). Boland and Tenkasi (1995) have proposed a more open concept of communities of knowing, which they relate to Hesse’s (1974) idea
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