Chapter 15

Situated Learning and Activity Theory-Based Approach to Designing Integrated Knowledge and Learning Management Systems

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ABSTRACT

Current Knowledge Management (KM) design approaches recognize the importance of integrating codification, personalization, and collaboration strategies. Incorporating various database systems, search functions, managerial support, performance appraisal, personalized widgets, and case summaries into seamless functions are exemplary efforts. However, KM is rarely integrated with organizational learning and development systems. In this article, the authors use concepts from the situated learning literature, Vygotskian cultural-historical theory of cognition, and a holistic learning and performance architecture to signify the integration of KM and organizational learning systems.

INTRODUCTION

Today’s organizations operate in global and innovation-pressured environments, and face the challenge of coordinating responsive information and management systems (Prahalad & Krishnan, 2008). In such environments, competitive advantage is only sustainable when the organization’s strategy, financial management, customer interaction, and work processes are coordinated and integrated with organizational learning and development (Kaplan & Norton, 1996). Knowledge Management (KM), as a process of creating, accumulating, organizing, and disseminating information, expertise, and insight within and across people is at the core of supporting and
improving organizations’ learning and development functions (Davenport, DeLong, & Beers, 1998; Rosenberg, 2006).

Scholars have identified various organizational and personal KM success factors beyond technologies, such as knowledge strategy, motivation/commitment, organizational culture, leadership support, work design, and strong measurements (Jennex & Olfman, 2005). Studies also reported the importance of user-driven sharing of knowledge through communities of practice and personal networks for successful KM adoption (Kimble & Bourdon, 2008; Jasimuddin, 2008). However, few studies attempted to explicitly align KM with organizational learning. We believe that theories of learning and knowledge as mediated processes should be recognized as key drivers of integrating both. Relevant concepts embrace: the role of user participation in knowledge creation/sharing (Wenger, McDermott, & Snyder, 2002), promotion of converting tacit knowledge into explicit knowledge assets (Nonaka & Konno, 1998), and codification of reciprocal feedback, resulting from social interactions (Lin, Lin, & Huang, 2008). KM as organizational memory system (Cross & Baird, 2000) can be effectively built when knowledge is conceptualized as a social and evolving artifact (Collison & Parcell, 2005; Prusak & Matson, 2006).

In this article we utilize ideas and concepts from the situated learning literature (Brown & Duguid, 1991; Lave & Wenger, 1991), Vygotskian cultural-historical theory of cognition and the activity theory (Barab et al., 2004; Engeström, 2001, 2007; Kaptelinin & Nardi, 2005), and a holistic and integrative learning and performance architecture (Rosenberg, 2006) as theoretical foundations for designing integrated learning and KM systems. In the remainder of the article we review theoretical perspectives on organizational learning and knowledge management as applied to integrated learning and knowledge management systems design, propose learning- and activity-based design principles to be applied in KM design work, and summarize our conclusions and implications for KM users.

**UNDERSTANDING ORGANIZATIONAL KNOWLEDGE AND LEARNING: TWO THEORETICAL PERSPECTIVES**

In an analysis of theoretical and applied models of organizational learning and knowledge creation, Antonacopoulou and Chiva (2007) argued that all existing models are based on either the individual or the social view of learning and knowledge. As illustrated in the tradition of behaviorism, information processing theory, and nativistic developmental perspectives, the individual view considers learning as an internal process of obtaining knowledge, and knowledge is viewed as objective realities to be mastered. On the other hand, the social view sees learning as a mediated process and knowledge is always continually defined as justified truth by members of the society (Nonaka, 1994).

The individual view is best summarized by Simon’s (1991) often-quoted statement: “All learning takes place inside individual human heads” (p. 125). However, as Tsoukas and Mylonopoulos (2004) pointed out, this view is subject to the “apple tree” fallacy: knowledge used by individuals in their organizational work is assumed to be readily available to be picked from the organizational tree of knowledge (a.k.a. organizational digital databases). Tsoukas and Mylonopoulos (2004) explained that the main problem with this view is that it “tends to ignore... the constructed [emphasis in the original] nature of knowledge: whatever knowledge is, the form as well as the content it takes depends on what questions are asked...” (p. S3). In presenting this argument, they drew on Foucault’s (1972) work to suggest that knowledge is “the outcome of particular social practices” (S3).

The social perspective emphasizes that knowledge can be regarded as a form of “social expertise”