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Collective Learning Processes and Human Resource Development

Thomas N. Garavan
Alma McCarthy

Collective learning is important to both human resource development (HRD) researchers and practitioners. Collective learning is a broad term and includes learning between dyads, teams, organizations, communities, and societies. Most conceptions of collective learning highlight characteristics such as relationships, shared vision and meanings, mental models and cognitive and behavioral learning. Collective learning processes pose challenges for both HRD research and practice. For researchers, we need to more fully understand how collective learning processes occur, the factors that affect collective learning, and the emergent nature of collective learning. For practitioners, the challenge concerns whether collective learning can be planned, structured, and managed.

Keywords: *collective learning; collective-learning processes; human resource development*

The study of collective learning processes in a human resource development (HRD) context is still relatively new. There is a heightened interest in the structure and function of collective constructs in the wider management literature (Morgeson & Hofmann, 1999; Ya-Hui Lien, Hung, & McLean, 2007). A variety of collective concepts have emerged; these include organizational learning (Garvin, 2006), team learning (Edmondson, 2002), collective strategic leadership (Vera & Crossan, 2004), communities of practice (Brown & Duguid, 2001), strategic learning (Thomas, Sussman, & Henderson, 2001), and organization-led collective learning (Heraty, 2004). Collective learning processes have emerged at a theoretical level out of recognition that the sum of individual learning does not equate with the collective level of analyses. Collectives are viewed as open, learning systems that continuously interact

with their environments. These systems exist to do work, but as they work they learn. Jaques (2002) suggests that they cannot but learn. Collective learning processes include a range of characteristics such as processes of acquiring new ways of interacting, skills, knowledge and changing patterns of interaction and behavioral routines. Collective learning processes require a multilevel perspective that examines characteristics and factors and processes that unfold at individual, team, and organizational level. Arrow, McGrath, and Berdahl (2000) suggests that individuals, groups, and organizations can be conceptualized as a nested hierarchy of learning systems.

Human resource development practitioners are frequently required to design interventions that help organizations to structure themselves, communicate with other organizations, restructure and adopt, and continuously learn to cope with a continuous changing environment. The traditional menu of HRD interventions is no longer appropriate. They are required to design interventions that focus on learning in situ instead of off-line HRD interventions. Practitioners are expected to use more novel interventions and to enable organizations cope in many learning situations. These requirements have major implications for the values, knowledge, and competencies of HRD specialists.

In this special issue, we consider collective learning to be a sufficiently broad term to embrace a number of ideas such as the learning organization, team learning, communities of practice, strategic learning, and organization-led learning. Collective learning processes are dynamic and cumulative in nature. They involve social interaction, the leveraging of relational synergies, and the development of shared understanding and meaning. The outcomes of collective learning processes are both cognitive and behavioral in nature.

This issue helps to shape the emerging field of collective learning by exploring a number of specific issues: What is collective learning? What are collective learning processes? What conditions foster collective learning? What factors hinder collective learning processes? What role does HRD have in facilitating collective learning? Can organizations structure and manage collective learning processes? This combination of theoretical and more practical-focused questions are addressed in various contributions in this issue. We have focused in this issue on a number of specific collective learning processes including organization-led learning, collective intuition, team learning, communities of practice, networking, and collective learning.

This issue is timely for a number of reasons. First, existing literatures examine collective learning concepts from a multiplicity of perspectives. These diverse literatures have led to fragmentation in thinking rather than a rich dialogue across the various research streams. Second, the HRD literature has primarily focused on individual-level learning and objectified learning rather than focusing on its emergent and intangible nature (Garavan, McGuire, & O'Donnell, 2004; Lee, 2007). A single-level focus suffers from two particular problems: the tendency to overgeneralize relationships found at the individual level to seemingly similar concepts at another level. Single-level research on

learning underestimates cross-level effects. We need more studies that adopt a multiple levels approach to enhance the theoretical case of HRD. The objectification of learning does not sufficiently capture the complexity of learning in organizations or its essentially emergent nature at the organization or collective level. It ignores the interplay of processes at an individual, team, or organizational level. Collective learning processes are adaptive, generative, and transformative depending on characteristics of the external environment and the internal readiness for learning. We do acknowledge that individual-level approaches have value in explaining the behavior of individuals within the collective.

This article considers the scope of collective learning and the types of processes that are found in the literature and in practice. We discuss a number of collective learning concepts. We then examine tensions and conflicts inherent in these concepts. We propose a framework that integrates the various concepts and identifies the possible terrain of collective learning. We highlight possible implications of collective learning processes for HRD research, theory and practice and summarize the main arguments of the articles presented in this issue.

Understanding Collective Learning: A Multiplicity of Strands

The discussion of HRD is populated with a multiplicity of collective terms. They are often used in isolation and highlight different dimensions such as the cognitive versus the behavioral, practice versus understanding, the objective versus the social constructionist, and the individual working within a collective versus the collective in its entirety. They often overlap in conceptual meaning. We describe seven such concepts to illustrate how they are similar and different.

Organizational learning. Organizational learning is generally defined as processes enhancing the actions of organizations through better knowledge and understanding (Kroth, 2000; Lundberg, 1995). Learning is conceptualized as an iterative process involving action, reflection, change, and the creation of new knowledge and insight (Gond & Herrbach, 2006). The literature on organizational learning is extremely diverse and complex. Some contributions focus on the learning per se (Garvin, 2000), whereas others focus on the role of leadership in organizational learning (Vera & Crossan, 2004) or the question of power in organizational learning (Lawrence, Mauws, Dyck, & Kleysen, 2005). The organizational learning literature includes both organizational and individual-level explanations. Organizational-level explanations focus on routines and the role of culture, whereas individual-level explanations focus on the cognitions and behaviors of individuals. It is assumed that where individuals have gaps in their learning, this hinders the effectiveness of learning at the organizational level.

Strategic organizational learning. The concept of strategic organizational learning is highlighted by Burgelman (1991) who suggests two distinct interpretations of strategic learning. The first interpretation views strategic learning as a retrospective sense-making and social-learning process, whereas the second interpretation views strategic learning as a proactive, intentional, targeted process emphasizing retrieval of real-time, specific knowledge from ongoing strategic initiatives (Grundy, 1994; Kuwada, 1998). Thomas et al. (2001), for example, envisage strategic learning as a process that fosters continuous radical innovation. Strategic learning is considered a subset of organizational learning; however, an emerging literature has sought to emphasize its distinctive nature (Kuwada, 1998; Voronov & Yorks, 2005). Kuwada (1998) highlights that strategic organizational learning is an intraorganizational, ecological process, integrating various levels of learning in organizations and including processes of both strategic knowledge creation and strategic knowledge distillation. Voronov and Yorks (2005) highlight the key differences between organizational learning and strategic organizational learning. Organizational learning is considered as something that is not necessarily deployed in the service of a predefined strategy and or to help the organization realize or implement its strategy. Strategic organizational learning envisages a collective learning process that results in organizational performance outcomes and that can be measured and related back to the strategic organizational learning processes implemented in the organization.

The learning organization. The learning organization literature is problematic for those academics who consider that theories should explain and describe organizational phenomena. The learning organization concept starts from the premise of a positive relationship between organizational learning and performance. Performance is frequently defined in a multiplicity of ways to include profitability, productivity, innovation, and so forth. Models of the learning organization (Pedlar, Burgoyne, & Boydell, 1999; Senge, 2006; Watkins & Marsick, 1993) emphasize the need to implement systems, processes, policies, and mechanisms designed to promote learning. Organizations that are more facilitating of learning will be better able to respond to the challenges of the external environment. The learning organization literature envisages best practices that will work in a multiplicity of contexts. The emphasis is on a combination of behavioral dimensions such as open communication, communication and dialogue, team working, empowerment, and participation in decision making as conducive to organizational effectiveness. Learning organizations are presented as visionary, idealized notions of organizations where descriptions of learning are both positive and inspirational, with a strong focus on emotions and symbols (Ellinger, 2002). It is assumed that learning organizations exist because of the existence of shared learning and collective mental models.

Team learning. Team learning represents a meso-approach to collective learning. Meso-level collective learning refers to the middle level of analysis in organizations. It acknowledges that learning can be localized and not necessarily organization-wide. One of its chief proponents, Edmondson (1999), defines team learning as a process in which a team takes action, obtains and reflects on feedback, and makes changes to adapt or improve. She acknowledges that team learning may not translate into organizational learning for a number of reasons including poor communication between team members, poor communication and learning across different teams, or failure by the team to adapt new ways of learning. Team-learning concepts account for the idea that learning in collectives is frequently localized and primarily driven by the interests and concerns of the group members. Kozlowski and Bell (2008) suggest that team learning can be viewed from emergent or outcomes perspectives. The emergent approach focuses on the importance of team climate as a cognitive-contextual factor that shapes team learning. Other issues of concern to the emergent approach include team mental models, transactive memory, the motivational states of team members and the team as a whole (Marks, Mathieu, & Zaccaro, 2000; Mathieu, Heffner, Goodwin, Salas, & Cannon-Bowers, 2000). Team learning is therefore not simply an aggregate of individual knowledge. The interface between individual learning and team learning is coupled with effects at multiple levels. Team learning is frequently discussed alongside concepts such as communities of practice, which we highlight in this article as a separate collective learning process.

Communities of practice. The concept of collective practice is prominent in the literature (Thompson, 2005). Collective practice focuses on the relationship between the activities of individuals and the context of such activities. Garavan et al. (2007) describe collective practice as relations among the person, activity, and situation. Brown and Duguid (2001) and Wenger (1998) have emphasized key features of collective practice including the participation of members in communal activities, the social construction of meaning and understanding, and the mutual engagement, negotiation and development of a shared perspective or meaning. Communities of practice emphasize a social constructivist perspective and learning as an individual activity is considered misguided and of little value to understanding learning in collectivities (Handley, Sturdy, Fincham, & Clark 2006; Wenger, McDermott, & Synder, 2002; Wenger & Synder, 2000). Context plays a major role in shaping what constitutes learning. The challenge for researchers is to understand the social interactions that people make and how a collective identity emerges. Communities of practice primarily emphasize the tacit learning of collectivities and are understood as a joint enterprise that is continually renegotiated and produces a shared repertoire of knowledge and resources that members develop over time. Unlike team learning, communities of practice emphasize learning that is unstructured, informal, and the focus is on a sense of community.

Collective knowledge, memory, and mind. These three concepts are less frequently discussed in the HRD literature. Wong and Silkin (2000) suggest that collective knowledge is concerned with knowledge that is constituted by the collective ways of thinking and or acting and not with knowledge that is possessed by an individual. Some researchers such as Spender (1996) and Cook and Brown (1999) characterize collective knowledge as concerned with the practices that are embedded in the collective rather than simply a shared cognitive template. Knowledge is expressed in information and know how. These regulate how individuals co-operate in a collective. Both collective memory and collective mind emphasize interdependence, shared memory, and the reconstruction of memory among a group of individuals. Schuman and Scott (1989) define collective memory as concerned with the distribution of stored knowledge across group members and the interactions among group members in the acquisition, storage, and retrieval of memory. Collective memory is an important feature of organizations, because it is considered to be accurate and it facilitates greater recall of past events. It also contributes to a greater sharing of knowledge. There is some ambiguity concerning what behavioral interactions constitute collective memory.

Collective mind focuses on the collective interdependence between individuals: the idea that people in close relationships may depend on each other for the acquisition, recall, and generation of knowledge. Weick and Roberts (1993) emphasize that collective mind is located in the process of interacting. Whether collective mind is a cognitive or behavioral process is open to debate. The current literature does not explain how a collective mind is created, sustained, or changed over time.

Collaborative learning. Collaborative learning focuses on learning between collectivities and its potential for competitive advantage. The literature suggests a number of conceptions of collaborative learning. Digenti (1999) defines collaborative learning as “the interaction of two or more people engaged in value-creating activities based on improving, practising and transferring learning skills both within the groups and to the organization or groups of organizations to which the group belongs” (p. 45). Jones, Connolly, Gear, and Read (2006) conceptualize collaborative learning as a situation where a group of individuals learn from each other by engaging in discussion, reflecting on their experiences, and exploring reasons for differences in judgment. Shiba and Graham (1993) advance the notion of societal learning, which they define as learning from a network of organizations, customers, suppliers, and others who are trying to improve their practices. Shrivastava (1983) envisages collaborative learning as something that can take place between organizations or collectivities. He argues that collaborative learning is characterized by a variety of interests, agendas, ideologies, epistemologies, and methodologies. Individuals who engage in collaborative learning come from different cultures and experiences and, as a result, they have different ways of being, knowing, and doing. We

envisage that collaborative learning entails networking and working together with organizations both internally and externally to apply individual and collective knowledge and use this knowledge to achieve some form of competitive advantage. It enables organizations to build boundary-spanning skills and interdependencies and facilitate shared knowledge, product capability, and increased profits (Digenti, 1999, Lam, 2000).

Collective Learning Processes: Tensions And Paradoxes

These various notions of collective learning reflect different conceptualizations of learning and organizing. Some emphasize adaptation and change, others highlight the need for better knowledge and understanding, and others simply focus on the construction of shared meaning, different levels of sharedness and unsharedness, and the histories and social relations of the people in the collective. Collective learning processes may also be viewed as institutionalized, embedded processes, or as processes that enhance organizational performance. The following section sets out some of the key tensions and paradoxes that exist in the collective learning process literature and theory.

Cognitive or behavioral focus. Collective learning research differs in its emphasis on the cognitive versus the behavioral. Cognitive approaches focus on the evolution of knowledge and consider learning as a cognitive shift in the collective. The collective is viewed as an entity that engages in knowledge acquisition, information sharing, knowledge interpretation, and organizational memory (Huber, 1991). Collective learning is therefore something which involves conceptualized shared inquiry, negotiation, critical reflection, and a cognitive rethink of the core assumptions of the collective. It is envisaged as an open integrative process where personal worldviews, assumptions, and mental models are freely exchanged and probed. The cognitive perspective highlights how individuals construct a shared worldview that becomes its collective cognition.

Behaviorist approaches focus on the adaptive capacity of the collective. Collectives are viewed as goal-driven, adaptive systems. The key issue is the institutionalization of learning processes in terms of capabilities, behaviors, and strategies to facilitate collective learning. The learning organization and strategic organizational-learning concepts emphasize a behaviorist perspective. The key outcome desired by the collective is behavioral change. Zollo and Winter (2002) envisage that members of the collective will reflect on the relation between actions and outcomes and engage in constructive confrontations. Behaviorist approaches are interested in performance outcomes rather than in learning outcomes per se.

Functional or dysfunctional outcomes. Collective learning is generally viewed as a positive process. Behaviorist accounts of collective-learning concepts associate collective learning with improvements in organizational performance.

Typical performance improvements include better teamwork, improved productivity, and greater strategic fit (Easterby-Smith & Lyles, 2003). Recent literature has begun to focus on more dysfunctional outcomes. Individuals may not act in ways that are consistent with organizational goals (Berson, Nemanich, Waldman, Galvin, & Keller, 2006). Collective learning may not reflect the sum of the learning of individuals. Edmondson (2002) found, for example, that collective learning is a variegated phenomenon. She found significant variations in both the quality and use of collective reflection within the same collective. Individuals' beliefs about power and psychological safety were also considered important because where these beliefs were negative, they disabled individuals to contribute their ideas and insights. Collective learning processes may also lead to stress, anxiety, and behavioral affective and cognitive outcomes not valued or beneficial to the organization.

Planned and managed or unplanned and emergent. Various conceptualizations of collective learning tend to view it as planned, structured, and organized. Examples of such a perspective include total quality management, continuous improvement teams, the learning organization, and organization-led learning. The aim is to embed learning in organizational systems, routines, and standard operating procedures. These systems guide future learning. Visser (2007) suggests that planned approaches induce metalearning in individuals and this metalearning is embedded for future use. Alternatively, some view collective learning processes as unplanned, organic, and iterative (Kroth, 2000). Collectives are essentially organic and, as a result, it is difficult to organize for collective learning. Burke et al. (2006) suggest that collective learning is adaptive and long term, and as a result, the management of such learning organizations is difficult, if not impossible.

Individual learning within the collective or collective-level learning. Some scholars focus on individuals and the collectives to which they belong as the starting point to discuss collective learning, whereas other scholars focus on the learning characteristics of the collective itself (Armstrong & Foley, 2003; Hedberg, 1981). Typically, the individual-level focus is interested in how individuals transfer learning to the collective. The emphasis is on how individual characteristics facilitate the development, presentation, and transformation of cognition and behavior. Scholars are interested in personality and competency characteristics of individuals and how they impact the way that individuals interact with each other in the collective. Individuals who possess superior analytical skills, task knowledge, and interpersonal skills are assumed to have a greater impact on collective learning. The collective-level approach emphasizes organization-level outcomes. The emphasis is on issues such as organization culture, the learning orientation of the collective, the characteristics of the collectives' structure, and the types of mechanisms that the collective uses to interact with its environment. There is debate concerning whether collectives

can actually learn or whether individuals are the starting point for learning (Shipton, 2006). A number of contributions on team learning have moved away from the individual focus and considered the team as the unit of analysis.

Prescriptive and normative or explanatory and descriptive. The learning organization literature generally addresses the needs of practitioners and consultants rather than academics. It tends to be perspective and normative (Friedman, Lipshitz, & Popper, 2005; Tsang, 1997). The organizational learning, collaborative learning, and strategic organizational learning literatures assume a positive relationship between collective learning and performance. Where collectives are successful in implementing systems that promote learning, they will become more successful as a result. In contrast, the explanatory and descriptive literatures focus on understanding. They highlight facilitating and inhibiting factors but avoid prescription. They adopt an interpretive rather than a positivist orientation (Nonaka & Takeuchi, 1995). The prescriptive-normative and explanatory-descriptive distinctions are indicative of the gap that frequently exists between academics and practitioners. The HRD practitioners are interested in understanding how collective learning has value in achieving and sustaining competitive advantage. The HRD researchers tend to be more interested in explaining and understanding concepts rather than how they can be applied in practice.

A Typology of Collective Learning in Organizations

Collective learning processes involve a broad range of stakeholders. Sadler-Smith (2006) suggests that they include dyads, teams, communities, networks, organizations, and whole societies. A number of themes are highlighted. They are considered dynamic and cumulative processes and involve interaction driven by a sense of belonging and relational synergies (Camagni, 1995). Mittendorf, Evjset, Hoeve, A. deLaat, and Nieuwenhius (2006) suggest that collective learning processes require shared understanding and shared meaning. They focus on enduring change in the collective, which comes about as a result of the interaction between the collective and its context. Context such as culture and structure influences interactions, and where context is more integrated, it will contribute to multiple links connecting individuals and a multiplicity of information, viewpoints, and knowledge. The collective has the ability to learn from experience driven by the members of the collective. Dialogue is a fundamental process necessary for collective learning. Key dimensions of dialogue include its frequency, the profoundness of the interaction, the quality of the dialogue, and the existence of accessible, meaningful structures. The extent to which this dialogue takes place is also related to the motivation and self-efficacy of the individual. This includes such issues as motivation to learn and motivation to transfer. Motivation becomes a particularly important feature of individual learning in the context of the collective perspective. This assumes that such learning will be of benefit to the collective as a whole.

Collective-learning processes highlight the multilevel nature of organizations. They also highlight multiple conceptualizations of collective learning. Some scholars have tended to view learning as an isomorphic construct. It is assumed that learning at higher levels of analysis have the same meaning and should demonstrate similar patterns of relationship as they do at the individual level. Although that may be the case, we suggest that it is possible to suggest a multiconceptualization perspective that suggests four conceptualizations of collective learning. Each conceptualization provides a valid and meaningful approach to understanding collective learning. Each conceptualization provides unique insights regarding collective learning. We selected three sets of dimensions to produce the typology presented in Figure 1: the behavioral or the cognitive; the individual within the collective or the collective in its totality; and whether the conceptualization is perspective and normative or explanatory and descriptive. We have also indicated how the articles in this issue align with this typology.

We concentrated on capturing these three dimensions of our discussion on conflicts and tensions in our proposed typology. We therefore ignored the functional versus dysfunctional perspective and the planned and managed or unplanned and emergent debates. We would argue that each of these issues has application to any of the four quadrants in our typology.

Quadrant 1 includes the learning organization because it focuses on a conceptualization of collective learning, which is behavioral, prescriptive, and normative, and the priority is on individual learning within the context of the collective. The learning organization concept focuses on how the organization facilitates the learning of all its members. The dominant concern is with the identification of processes which enable individuals to implement their learning to achieve organization-level outcomes. It is assumed that a positive relationship exists between individual-level learning and organization-level outcomes.

Quadrant 2 focuses on collective learning that is behavioral in focus, but the focus is on collective-level learning. These conceptualizations tend to be perspective and normative in nature. We place strategic organizational learning, organization-led learning, and collaborative learning between collectives in this quadrant. Strategic organizational learning focuses on collective learning that occurs at the level of the organization and that can be codified and facilitates increased organizational learning effectiveness. It is viewed as a means of achieving the strategic renewal of the organization-led learning and highlights a number of mechanisms that can be used by organizations to generate organizational learning. These include communication, shared vision, teamwork and facilitative behaviors by managers. Quadrant 2 includes collaborative learning between collectives. It focuses on learning between a network of organizations, customers, and suppliers who wish to improve their practices.

Quadrant 3 includes four collective learning concepts: team learning, communities of practice, individual intuition by managers, and collaborative

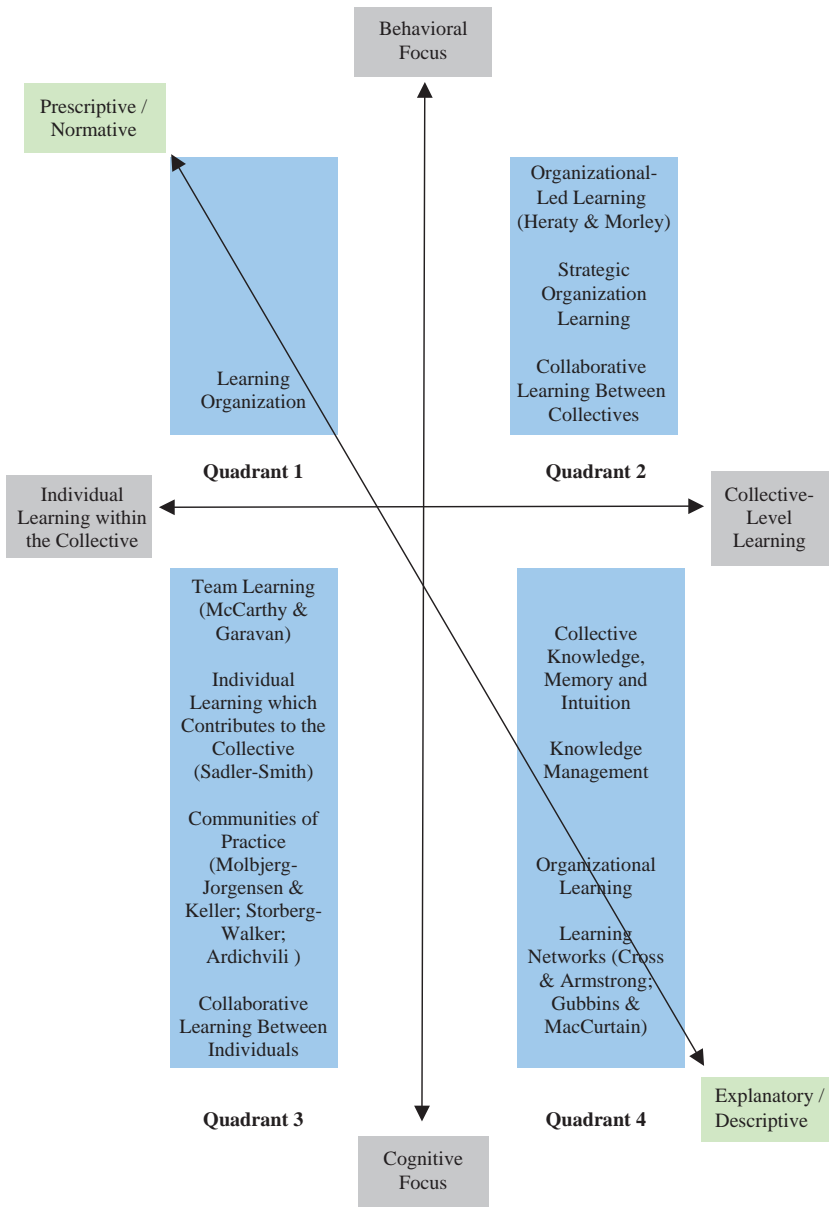


FIGURE 1: Conceptualizing Collective Learning Processes in Organizations

learning between individuals. This quadrant emphasizes the cognitive dimensions of learning, individual learning within a collective, and collective learning from explanatory and descriptive perspectives. Team learning focuses on shared mental models or collective processes that enable teams to operate and function effectively. The relationship between individual and team metacognition is complex. We argue that it can be understood as either the aggregation of individual cognitions or as something more than the sum of individual cognitions. There will likely be a strong parallel between the team level collective perspective and metacognition at the individual level of analysis. Communities of practice highlight that all learning takes place inside human heads. Organizations, therefore, learn through the learning of the members of the community. Communities of practice acknowledge that the processes of working and learning are interrelated and compatible activities. Collaborative learning between individuals focuses on situations where individuals engage in discussion, processes of reflection, and the exploration of reasons for differences in perspective. This represents one particular strand of collaborative learning.

Quadrant 4 includes organizational learning, collective knowledge, and collective memory and mind. These concepts focus on the cognitive dimensions of collective learning and highlight collective-level learning. Collective knowledge is viewed as an adaptive process whereby organizations adopt to environmental changes. They articulate knowledge and seek to codify it. The role of context and social engagement is of central importance to concepts included in Quadrant 4. Quadrant 4 highlights the emergent and adaptive nature of collective learning and the difficulties that organizations may encounter in trying to manage it.

The Research And Practice Agenda For HRD

The Research Agenda

Collective-learning processes suggest significant challenges for both the research and practice agendas of HRD. The task of researching collective-learning processes requires measurement strategies at both the individual- and collective-level of analysis. The measurement of concepts at the individual-level cannot always be aggregated and assumed to give a good representation of its collective counterpart. Measurement of collective learning at the collective-level requires consideration of the level of interaction in the collective, the integration of the collective, and factors such as co-ordination and interdependence. Morgeson and Hofmann (1999) acknowledge that it is possible to measure relevant collective phenomena at the individual level and at the same time address theoretical questions at the collective level. They suggest that this requires a clear distinction between the level of theory and the level of

measurement. The level of theory focuses on the constructs and concepts and how they are hypothesized, whereas the level of measurement focuses on the actual sources of data. Therefore, it is possible to measure collective learning processes with measurement at the level of the individual.

Glick (1985) has highlighted the importance of framing measures in collective terms and the need to be concerned with the individual's role in the context of the wider collective. This enables researchers to collect individual-level data that is relevant to explaining a collective-level phenomenon. Research of collective learning processes requires researchers to consider both structural and functional characteristics of collective learning processes. Functional dimensions emphasize the outcomes of collective learning processes, such as productivity, competitiveness, and effectiveness of the collective. It is likely that a total focus on the outcomes or function will result in descriptions that are not necessarily rich. Structural aspects of collective learning focus on getting rich descriptions of collective-learning processes. This, however, may result in a loss of generalizability.

Each quadrant of Figure 1 raises different research questions for HRD. In Quadrant 1, the key issues focus on understanding the processes that enable individuals to implement their learning for the benefit of the organization and to identify the strengths of the relationship between the learning of individuals and organizational effectiveness. In Quadrant 2, we need to know more about the outcomes of strategic organizational learning. The role of HRD in facilitating collaborative learning between collectives is not yet well understood and there is a significant gap in our understanding concerning how HRD can facilitate and support organization-led learning. In Quadrant 3, we need to understand more fully how HRD contributes to the development of metacognition and team learning and to more fully understand the role of tacit knowledge in communities of practice and to identify how such knowledge enhances collective learning in organizations. The role of HRD activities in creating social environments that facilitate the learning of individuals and the communities to which they belong also needs further investigation. In Quadrant 4, the role of HRD in facilitating knowledge management processes needs to be more fully understood. We currently have a very limited understanding of how, for example, codification of knowledge facilitates or inhibits collective-learning processes. The dynamics of organizational learning are as yet not fully understood. What role does HRD play? And how do HRD processes facilitate or inhibit organizational learning? Does HRD have any role to play in this quadrant?

Overall, there is scope for research on the role of HRD as a strategy to facilitate collective learning. An important step is theory building to develop an integrated view of the role of HRD in issues such as team transactive memory systems, knowledge dissemination, shared cognition, and the variegated nature of collective learning in organizations. At the collective level, it would be useful

to explore the influence of HRD in encouraging and strengthening practice- and action-learning processes. The HRD plays an important role in challenging the status quo in enabling feedback processes and the use of past learning as well as exploring new learning.

The Practice Agenda

The HRD can help to reinforce the transfer of knowledge and learning between individuals so that it assumes a collective dimension. The HRD interventions that emphasize collective action can highlight the importance of organizational achievement. Feldman (2000) points out that extensive induction and socialization can help employees to better understand how they fit into the collective dimension of the organization. Mentoring and coaching activities will likely be of value in enabling employees to build networks across the collective, thereby facilitating the transfer of learning. Harrison and Kessels (2004) argue that a consistent vision of HRD should contribute to the reinforcement of the value of collective endeavor and help to promote trust in the collective.

The HRD has a role to play in ensuring that learning becomes embedded in systems, structures, strategy, routines, and practices. Organizations may use HRD interventions to help codify learning and to articulate the unconscious thinking that informs practice. The HRD practices may also be used to promote empowerment, allow employee input into goal setting, and facilitate the implementation of learning.

An important issue concerns the utility of HRD in facilitating collective learning. Specifically, can collective learning be designed? We use the term *design* to denote an activity that is systematic and planned and a time- and space-specific activity. It includes the design of organizational processes to facilitate collective-learning processes. It is arguable that collective-learning processes cannot be designed because they belong to an experience and practice field. In Quadrant 4 of Figure 1, for example, collective learning processes are considered to be about a live experience of negotiated meaning. The HRD may play a role in recognizing, supporting, and nourishing collective-learning processes. Collective-learning processes cannot be designed but they can be facilitated or frustrated. It is possible for HRD to create infrastructures, systems, and resources that nourish collective-learning processes. We envisage that the challenge for HRD is to promote, develop, cultivate, and support collective-learning processes.

Another key issue concerns the starting point. What should HRD focus on? Is it an individual-level initiative or is it an organization-level initiative? The answer to these questions will depend on the conception of collective learning held by the HRD professional. We will now explain how articles are structured in this issue.

Articles in this Issue

The Heraty and Morley article represents a useful and relevant follow on the introduction. They introduce the concept of organization-led collective learning as a particular way of understanding collective learning in organizations, and the concept is relevant to Quadrant 2 in Figure 1. They propose a model that draws on three sets of theory: the learning organization, organizational learning, and knowledge creation. The model identifies two key pillars that support collective learning: the articulation of a shared vision and the important role of interpersonal communication that facilitates the emergence of shared goals. The premise of the article is that it is possible for organizations to put in place a collective-learning structure to manage collective learning. Collective learning can be facilitated through reduced hierarchy and broader job definition. The importance of the manager in envisioning and managing the architecture of organization-led learning and the need to promote a team approach to work design is highlighted in Heraty and Morley's article. The article ultimately envisages that learning is understood on a collective sense rather than individual learning within the collective.

Sadler-Smith (2006) explores the concept of individual intuition and discusses how intuition as an individual, nonconscious way of learning is related to the processes of collective learning. This argument fits into Quadrant 3 of Figure 1. The article is premised on the idea that if managers have the potential to exchange and share intuitions, then it is possible in the context of organizational learning to arrive at a situation where the collective expertise of organizations is achieved on the basis of what has not previously been articulated. The article suggests that the capacity to articulate hidden knowledge potentially represents an important source of competitive advantage. Sadler-Smith (2006) suggests that a challenge for HRD is to create and support the conditions where intuition among individuals and groups will flourish.

McCarthy and Garavan is also relevant to Quadrant 3. It explores the issues of team learning and the role of metacognition processes. The article develops a conceptual model of team learning and highlights the importance of higher order thinking and active control of the cognitive processes engaged in by teams. Metacognitive theory is viewed as an important concept that takes place in teams around such issues as routine, habits, and underlying reasons for behavior. A key debate concerns the relationship between individual and team-level metacognition. The article suggests that metacognition is an important issue at all stages of team development. Metacognition plays an important role in ensuring that team learning is converted into problem-solving ability. Teams with higher levels of metacognition will be more effective at identifying the routines, norms, and habits that facilitate more effective learning at the collective level.

Three articles in the issue focus on communities of practice (CoPs), which are also included in Quadrant 3. Mølbjerg Jørgensen and Keller focus on the

issue of learning as negotiated identities and the contribution of CoPs to HRD. They argue that learning as negotiated identities captures the essential contribution of communities of practice to HRD. The article focuses on the interplay between HRD and context and argues that CoPs are an important vehicle in HRD because it provides a language to talk about informal and tacit learning processes that are naturally occurring in organizations. The distinct contribution of the article concerns the impact of identity and its use to understand practice. Identities are considered to be rich, complex, lived, and negotiated. Identity emerges as an important learning process because it incorporates the past and the future and is a nexus of multiple memberships.

Ardichvili explores the concept of virtual (online) communities of practice and their role as a vehicle for collective learning in the workplace. Collective learning occurs when members share their knowledge with others and co-create new knowledge while participating in different forms of knowledge exchange. The specific contribution of the article concerns the key motivational factors that determine individuals' willingness to participate in online knowledge sharing. The model suggests three barriers that mitigate online knowledge sharing. These include interpersonal, technological, and cultural factors. Three particular enablers facilitate knowledge sharing: supportive organization culture, personal knowledge-based trust, and availability of adequate tools. The article highlights the specific contribution of HRD in promoting and strengthening online CoPs.

Storberg-Walker revisits the concept of communities of practice and suggests that, to date, it is a failed exercise in applied CoP theory. She suggests the application of applied theory-building research as one way to bridge the scholar-practitioner divide. The particular contribution of the article concerns its attempt to move the analytical elements of Wenger's conception of a CoP down the ladder of abstraction and make it more suitable for empirical use and testing. The article suggests that there are significant obstacles to the goal of moving Wenger's conception of a CoP into the applied realm. She suggests that research should focus on issues of power, politics, access, and their relationships to participation in CoPs. She concludes that HRD research must remain true to its applied fields rather than move into more higher levels of abstract conceptualization.

We included organizational learning and networking in Quadrant 4 of our typology. Two articles focus on the role of learning networks in collective learning processes. Gubbins and MacCurtain highlight the significance of trust in the development and sustainment of social networks and social capital and how these networks facilitate collective learning. Trust is important in activating social processes such as intensive social relationships, sharing confidences in others, help-seeking behavior, and the free exchange of information. Trust has a major role to play in collective learning, and they consider a variety of trust or social network collective learning configurations: (a) trust as an

antecedent to initiating social relationships, (b) social network structure as an antecedent to trust, (c) trust as antecedent to willingness to share information and knowledge, and (d) the willingness to engage in learning and trust as a determining factor in the value of knowledge accessed and mobilized through the collective social network. The focus is on the overall network rather than the individual per se.

Cross and Armstrong explore the role of learning networks in collective learning from the particular experiences of women. They argue that women lack access to relevant networks and as a result they tend to establish their own networks. They highlight the types of learning that women gain from these networks. This learning initially tends to be individualized, incidental learning. However, over time, it develops into collective learning as women learn from their own networks and learn from each other in an anticipatory fashion. The article highlights the important role of mentoring relationships in facilitating networking and the importance of communities of practice groups who share an interest in an issue, meet periodically to discuss problems, brainstorm, and share knowledge. These communities enable women to conceptualize their work situations, approach problems, and generate solutions. The greater the amount of interaction, the more tacit learning that is shared and the more effective the networking.

Conclusion

Collective-learning processes represent a broad category and include concepts such as the learning organization, collaborative learning, organizational learning, team learning, and strategic learning. These concepts emphasize the synergy and advantages of the collective. Collective-learning processes require that individuals not only simply learn from each other but also develop a shared understanding and meaning about the learning process and the learning that is derived. Collective learning processes are considered to be dynamic and cumulative and highlight the importance of social interaction within the collective.

Collective learning processes highlight significant challenges for the role and purpose of HRD in organizations. A major concern is whether collective learning processes are organic in nature or whether they can be facilitated and nourished in organizations. Do they need to emerge in a spontaneous way, or is it possible for organizations to engineer collective learning processes? These represent complex questions that are often driven by ideology and theoretical perspective. It is, however, well accepted that organizations can use HRD to create a framework within which individuals feel motivated and committed to learning. Human resource development can facilitate in articulating and sharing learning and contribute to the creation, transfer, and implementation of learning at the collective level.

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