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ORGANIZATIONAL LEARNING: A LITERATURE REVIEW

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ABSTRACT

While a comprehensive model for organizational learning (OL) remains elusive, the wide web of scholarly conversation and debate has spurred rich insight into the central questions of *how* and *what* people learn in organizational settings. This paper is aimed at exploring some of those debates, with a view to identifying a complementary set of factors that, if present, might tip the balance towards more fruitful learning in organizations. I begin by exploring the debates shaping the literature through two central questions: 1) What is learning? and 2) Can organizations learn? Based on the insights gained, I turn to the question of how organizations can increase their capacity to learn.

I define learning in organizations as a multilevel process whereby members individually and collectively acquire knowledge by acting together and reflecting together. Knowledge is acquired, or created, and applied by individuals. In turn, individual knowledge is shared, combined, expanded, tested, and applied amongst individuals to become group or community knowledge. As that knowledge is captured, spread and embedded in organizational features, such as strategies and protocols, it becomes part of an organizational context, or code, that, in turn, influences what and how groups, communities, and individuals learn. The code continues to evolve as it consumes the learning of individuals and groups.

Rather than searching for the ultimate recipe for learning, I offer a set of questions as a starting place for this exploration. The questions and commentary are meant to tap into the tremendous amount of wisdom that has been generated in the area of organizational learning.

INTRODUCTION

We live in a world of disruptive change (Christensen & Overdorf, 2000) whereby organizations are called to produce greater value through unique combinations of innovation, quality, efficiency, and customization. These new sources of value cannot be achieved by doing more of the same or tinkering with the familiar. Rather, well-worn operating models and patterns of thinking must be replaced with fresh, novel ones. To do so, organizational leaders must stimulate new ways of thinking and acting amongst individuals, groups, and communities (Bontis, Crossan, & Hulland, 2002; Nonaka, 1994). In our disruptive world, an organization's capacity to learn—to acquire, apply, and spread new insights—has been touted as the fundamental strategic capability (Fiol & Lyles, 1985) and a leading source of competitive advantage (de Geus, 1988, 1997; Stata, 1989).

While our organizational challenges call for learning and creativity, there is no consensus around what organizational learning is or how to best facilitate it. With researchers from disciplines as diverse as psychology, sociology, business, and ecology studying learning from distinct domains, there has been a “general lack of cumulative work” (Huber, 1991, p. 88) resulting in a cacophony of voices, approaches, and prescriptions (Crossan, Lane & White, 1999). An organization’s ability to learn, unlearn, and relearn has been compared to the rejuvenating properties of the “fountain of youth” (Inkpen & Crossan, 1995), yet those same authors lament, “understanding organizational learning has been almost as elusive” (p. 597).

While a comprehensive model for organizational learning (OL) remains elusory, the wide web of scholarly conversation and debate has spurred rich insight into the central questions of *how* and *what* people learn in organizational settings. This paper is aimed at exploring some of those debates, with a view to identifying a complementary set of factors that, if present, might tip the balance towards more fruitful learning in organizations. I begin by exploring the debates shaping the literature through two central questions: 1) What is learning? and 2) Can organizations learn? Based on the insights gained, I turn to the question of how organizations can increase their capacity to learn.

DEBATES SHAPING THE LITERATURE

Numerous sets of scholars have defined the primary debates in the OL literature by surfacing its theoretical underpinnings and identifying key constructs (Easterby-Smith, Crossan, & Nicolini, 2000; Fiol & Lyles, 1985; Huber, 1991). Two primary questions have consistently emerged at the root of these debates as follows: 1) What is learning? and 2) Can organizations learn or is learning in organizations a function of what individuals learn? While these questions provide the starting place for exploration, each question has spurred other questions, leading to new insights, debates, and areas of inquiry.

1. What is Learning?

Perhaps the foundational debate in the OL literature is around the very notion of what learning is (Fiol & Lyles, 1985; Huber, 1991). Central to this debate is the question of whether learning occurs as one acquires new insights or if an accompanying shift in action or behaviour is also required (Easterby-Smith, Crossan, Nicolini, 2000; Fiol & Lyles, 1985; Weick, 1991).

The question of whether learning is a cognitive process as well as a behavioural process has practical and theoretical implications. Theorists adhering to a purely cognitive perspective view learning as the development of new insights through the revision of assumptions, causal maps or interpretive schemas (Day, 1994; Freidlander, 1983; Huber, 1991; Kim, 1993). For example, Day (1994) describes organizational learning as the process of developing open-minded inquiry and informed interpretation. Huber (1991) distinguishes between learning and action by suggesting that an organization has learned “if any of its units acquires knowledge that it recognizes as potentially useful to the organization” (p. 89). Here, learning is defined as the

acquisition of new insights whereby learners develop new cognitive maps or belief systems. An accompanying behavioural shift, either immediately or over the longer term, may, but need not, occur. As Freidlander (1983) explains, "Change resulting from learning need not be visibly behavioral. Learning may result in new and significant insights and awareness that dictate no behavioral change. In this sense the crucial element in learning is that the organism be consciously aware of differences and alternatives and have consciously chosen one of these alternatives. The choice may be not to reconstruct behavior but, rather, to change one's cognitive maps or understandings" (p.194).

Theorists favouring a dual cognitive-behavioural approach suggest that while cognitive development is necessary, action is also required for full and complete learning. Here learning is said to occur as new insights, assumptions, and causal maps lead to new behaviors or conversely, new behaviours lead to new insights (Argyris 1977; Crossan, Lane & White, 1999, Garvin, 1993; Hedburg, 1981; Stata, 1989). Pointing to the intimate relationship that learning has with action, Argyris suggests: "An organization may be said to learn to the extent that it identifies and corrects errors" (p. 113). Linking learning directly to innovation, Stata (1989) describes learning as "... the process by which individuals gain new knowledge and insights and thereby modify their behaviours and actions" (p. 64). Inkpen and Crossan (1995) have likened the condition of cognitive change without an accompanying behavioral change to Festinger's (1957) cognitive dissonance. Describing the state of being required to change one's behaviour without an accompanying shift in one's belief system as *forced learning*, and the state of cognitive change without the opportunity to adapt behaviour as *anticipatory learning*, Inkpen and Crossan assert that full and complete learning requires the ability to align one's insights and behaviours.

Organizational knowledge (OK) theorists have also noted the behavioural-cognitive distinction, but from the point of view of the product of learning; either the development of *know what* or *know how*. Nonaka (1994), drawing on the work of Polanyi (1966), distinguishes between explicit, easily codified knowledge, and tacit knowledge, which is rooted in both cognitive capability (know what) and action (know how). While the exchange of explicit knowledge can be shared and integrated amongst members via reports, memos, data bases, and lectures, the sharing and development of tacit knowledge, whereby *we know more than we can tell* (Polanyi, 1966 in Nonaka, 1994), occurs through dialogue and practice as members surface and absorb *know what* and *know how*. Similarly, Zander and Kogurt (1995) create a distinction between information and know how, whereby information refers to *knowing what* something means and *knowing how* refers to a firm's ability to put that knowledge into action. According to the authors, know how becomes a capability of the firm and is built from the firm's ability to share, leverage, and exploit member competence.

Central to the cognition-behaviour question is the notion that learning is a function of conscious thought. While some suggest that learning does not have to be conscious or intentional, as in the case of operant conditioning (Huber, 1991), most OL theorists agree that learning, even if activated fortuitously, requires conscious cognitive reflection (Crossan, Lane, & White, 1999).

Pointedly, Fiol and Lyles (1985), distinguish between learning that requires conscious, cognitive reflection and mere *unreflective action taking*, which does not. Accordingly, they define learning as “the development of insights, knowledge and associations between past actions, the effectiveness of those actions, and future actions” (p. 811).

Independent of one’s theoretical leanings, the cognition-behaviour debate has contributed to a rich exploration of the many processes associated with learning, both cognitive and behavioural. Below I explore some of those contributions.

Contributions from the cognitive perspective

Those focusing on cognitive development have identified a number of sub-processes that enable the acquisition of new insights, including acquisition techniques, perceptual and interpretation processes, and levels of learning. While learning can be sought through active search processes including shadowing, pilot studies, formal experiments, action research initiatives, benchmarking, and the like (Huber 1991; Yeung, Ulrich, Nason and Von Glinow, 1999), learning can also be acquired vicariously through working-in-learning (Lave & Wenger, 1991; Brown & Dugid, 1999).

Potential learning, however, is blocked when members lack the appropriate cognitive apparatus for noticing or experiencing a “learning need” and for sensemaking. (Srikantia & Pasmore, 1996). While *need* creates the initial state that is required for learners to move from contentment (I know that I know) to exploration (I know that I do not know), learners must have both the motivation *and* ability to detect and interpret a need, which is influenced by what they already know or the complexity of their mental models (Argyris & Schön, 1978, 1996; Daft & Weick, 1984; Senge, 1990; Stata, 1989). Referring to the work of Ulrich Neisser (1979), a leading authority on perception, Inkpen and Crossan (1995) explain, “a primary reason for not processing stimuli is not noting them, and a primary reason for not noting them is a belief system that directs attention in a different direction” (p. 602). Sensemaking has also been linked to the levels of cognitive development, whereby routine learning is associated with single loop learning, and double loop learning with deeper cognitive adjustment (Argyris & Schön, 1978, 1996).

Real world support for the notion that a felt need is an antecedent to learning comes from multiple sources. For example, Inkpen and Crossan (1995), found that managers participating in formal learning alliances were more willing to engage in experimental learning after they identified a clear performance benefit to learning. The authors also found the opposite to be true. Knowledge acquisition was thwarted between joint venture partners by managers who did not see that they had a skills or competency deficiency compared to their partners. While the skill discrepancies could have provided the “fuel for learning” (p. 596), the discrepancies were not recognized and therefore learning did not occur. The authors concluded that “need” and openness to new learning are preconditions to acquiring new insights from others. Similarly, Brown and Dugid (1991) found the experiencing of work-based challenges amongst

learners and Nutt (2006) found the identification of a performance gap, to be important precursors to learning. In all cases, a perceived need was an antecedent to new learning.

Contributions from the cognitive-behavioural perspective

Those exploring the interplay between cognition and action have delved into how action springs from, or leads to, deeper cognition through reflective processes such as action learning (Lewin, 1947, 1953; Revin, 1980) and after action review (Garvin, 1993). With a focus on solving challenges that matter, and an orientation to learning by doing rather than through rigorous analysis, a basic concept behind action learning is that “one really does not know what one knows until it is put into action” (Redding & Catalanello, 1994, p. 145). Known as the practical theorist, Kurt Lewin (1947, 1953) pioneered the idea that *if you want to understand a system, you must seek to change it*. His methodology took him out of the laboratory and into the world to partner with clients (housewives, farmers, factory workers) to help solve real-world challenges and develop insights into theory. Lewin recognized that every action research initiative is different, and that diagnosis and solutions are unique to the players, dimensions of the challenge, historical climate, and culture of the system.

Contributions from the social constructionist perspective

In recent years, academics exploring learning from alternative epistemological stances have built from, and beyond, the cognitive-behavioural distinction to conjoin learning with situation-specific practice (Esterby-Smith, Crossan, & Nicolini, 2000). Moving beyond the predominant positivist assumption that knowledge is a commodity that can be quantified as *know what* or observed as *know how*, those operating from a social constructionist paradigm seek to explore the highly social, dynamic, and situation-specific context that supports a state of *knowing* (Brown & Duguid, 1991; Cook & Brown, 1991; Lave & Wenger, 1991; Wenger 2006).

The notion of knowing tightly fuses learning with practice and application. It shifts the focus of learning, suggests Wenger (2006), from “merely acquiring stuff to learning as a changing relationship of participation in the world” (p. 4). In support, Cook and Brown (1999), suggest that knowing occurs as people wrestle with the intricacies of real world challenges and improvise a way to a solution. Here, one’s veridical knowledge becomes valuable only as it is employed, combined, and consumed.

If knowing is a function of how peers apply, combine, and build-on their knowledge given the specifics of a situation, then learning, suggests Wenger (2006), necessarily involves the ability to collaborate. Here, learners are well-served by an inquisitive mindset in which they are willing to share their knowledge as *part of*, but not all of, the applicable knowledge—a notion Wenger refers to as *engaged partiality*. According to Wenger, the applicability of one’s personal knowledge and experience is co-dependent on the contribution of others, and must be negotiated with one’s peers.

Because knowing is highly situational, its lessons cannot be easily codified and transferred in protocols and training manuals. Rather, practitioner-developed knowing must be absorbed

through interaction via improvisation, apprenticeship, conversation, and storytelling. Whether one is a cabinetmaker, physicist or service technician, one adopts the worldviews, practices, and language of one's community by being an *insider*. In a community-of-practice setting, learners absorb explicit, hard to define know how, as they practice, share stories, and develop worldviews (Brown & Duguid, 1991; Lave and Wenger, 1991).

Jazz has been offered as a fitting analogy for the state of knowing, as it recognizes its collaborative, dynamic, and situation-specific properties. Central to the notion of improvisation is the players' ability to create fresh, novel music that springs from the combined, in-the-moment offerings of all. To do so, players must not only guard against the tendency to rely on pre-learned routines for fear of being unoriginal (Barrett, 1998), but also ensure that their partial contribution enables a greater whole. Accordingly, Minor, Bassoff, and Moorman (2001) define improvisational learning as the intersection between the challenge and action. Here, knowing is synonymous with performance and is a function of the delicate interplay between each player, their talents, the song, the notes played, and the notes arriving.

Key insights from debate 1: What is learning?

A primary debate in the OL literature has been around the question of whether learning is a process that facilitates the development of new insights or whether behavioural adjustment is also necessary. While cognitive learning is facilitated through the development of revised schemas or mental models, behavioural learning is facilitated through the testing and application of new insights and displayed through new strategies and actions. In essence, the question has been whether learners need to practice and apply newly acquired insights in order to make the learning cycle complete. Organizational knowledge theorists have added to the conversation by defining the product of learning as both *know what* (cognitive learning) and *know how* (behavioural learning).

Increasingly, academics have adopted broader definitions of OL that embrace the cognitive and behavioural nature of learning, perhaps in recognition that learning cannot be separated from how one experiences the world (Esterby-Smith, Crossan, & Nicolini, 2000). The emergence of new perspectives, in particular the social constructionist perspective, suggests that learning cannot be separated from doing, and places practice and social interaction centre stage. Here, learning is a dynamic interplay of cognitive insight and behavioural application, all in service of the challenge at hand and guided by a myriad of contextual factors including the place or space, the players, and their histories. Rather than viewing knowledge as an entity to be acquired and preserved as *know what* or *know how*, the notion of *knowing* suggests that one's knowledge becomes useful through practice, as it is surfaced, exchanged with others and built-on to suit the specifics of the situation. Knowing, therefore, calls for learners to negotiate the relevance and applicability of their ideas, perspectives, and skills to the task at hand (Wenger, 2006).

2. Can Organizations Learn?

Another primary debate in the OL literature has been around the question of whether organizations can learn. While some academics maintain that organizational learning is simply the sum of what individuals in organizations learn (Kim, 1993; Simon 1991), others contend that organizational learning is a reflection of the collective ideas, activities, processes, systems, and structures of the organization (Levitt & March, 1988; March 1991).

Representing the former perspective, Simon (1991) points out that organizations do not learn, people do, and “we must be careful about reifying the organization and talking about it as ‘knowing’ something or ‘learning’ something” (p. 126). As Simon contends, “All learning takes place inside individual human heads; an organization learns in only two ways: (a) by the learning of its members, or (b) by ingesting new members who have knowledge the organization didn't previously have” (p. 125). Accordingly, Simon (1991), reasons that learners, those who have the knowledge *stored in their heads*, should be the focal point of inquiry with the questions being: 1) do we know who knows what? and 2) can their knowledge be accessed by others as the need arises? As Simon suggests, “What an individual learns in an organization is very much dependent on what is already known to (or believed by) other members of the organization and what kinds of information are present in the organizational environment. As we shall see, an important component of organizational learning is internal learning—transmission of information from one organizational member or group of members to another. Individual learning in organizations is very much a social, not a solitary, phenomenon ” (p. 125).

Espousing the alternative perspective, Hedberg (1981), states, “although organizational learning occurs through individuals, it would be a mistake to conclude that organizational learning is nothing but the cumulative result of their members’ learning. ...Organizations do not have brains, but they have cognitive systems and memories. ...*Members* come and go, and leadership changes, but organizations’ memories preserve certain behaviours, mental maps, norms and values over time” (p. 6). In a similar vein, Nonaka (1991), describes a company as a living organism with a collective sense of identity and a fundamental purpose, which in turn influences each member’s commitment to learning and sharing knowledge. Here, it is recognized that as members learn and codify their learnings in organizational features, such as norms and systems, those features in turn influence future member learning.

In essence, the debate about whether organizations can learn, or not, has contributed to an exploration of the levels at which learning occurs in organizations—amongst individuals, groups and the wider system—and the dynamics at play as knowledge is transferred within and between each level (Esterby-Smith, Crossan, & Nicolini, 2000). Below, I explore some of the key contributions from the resulting inquiry.

Individual, group, and organization level learning

Given, as previously stated, all learning occurs through and amongst people, much attention has focused on exploring how learning is facilitated amongst individuals and within groups, as

well as how learning is transferred to relevant others and embedded in systemic goals and processes.

Nonaka's (1994) spiral of knowledge framework depicts learning acquisition and transfer amongst individuals as a process of internalizing and externalizing knowledge. Internalization processes enable the learner to absorb knowledge so that it becomes part of one's tacit knowledge base. Whereas "soft" tacit knowledge is acquired from others through socialization processes such as joint practice opportunities, mentorship, dialogue sessions, job shadowing and trial and error experimentation, explicit knowledge can be acquired via lectures, reports or data bases and absorbed to become tacit knowledge. Externalization processes, on the other hand, enable the codification and articulation of tacit knowledge and involve techniques that enable ideas and skills to be expressed or modeled through images, stories, metaphor, prototype development and practice. Once codified and expressed, explicit knowledge can be combined and built on to produce more complex knowledge. Thus, through a process whereby tacit knowledge is externalized and explicit knowledge is absorbed, individuals acquire new insights and abilities and share their learnings with others. (Becerra-Fernandez & Sabherwal, 2008).

Independent of the benefits to individual learning, social interaction, and common experiences also play an important role in the development and transfer of group knowledge (Becerra-Fernandez & Sabherwal, 2008; Fiol 1994). Those exploring group level learning have identified how social processes enable the exchange, synthesis, and broadening of individual member knowledge into the synergistic *knowing* that resides amongst the group. Here, academics have studied the many processes and conditions associated with productive learning interactions via conversation and interaction principles (Isaacs, 1999; Kahane, 2004), and common working-in-learning experiences (Kofman & Senge, 1993; Lave & Wenger, 1991, Wenger, 2006). To this end practical theorists have developed social technologies like café conversations (Hurley & Brown, 2010), whole systems change processes (Danemiller & Jacobs, 1992), and theory U (Scharmer, 2005) to offer philosophical, procedural, and logistical tenants for the facilitation, focus, pacing, and flow of productive learning experiences amongst and between groups and communities (Hurley & Brown, 2010; Weber & Manning, 1998). Together, these protocols create a rich environment for conversing and learning.

As in the case with individual learning, the product of group learning may be externalized and articulated as an innovative strategy or service offering, and internalized as a shared schema or set of beliefs which guide future learning and functioning amongst group members. Indeed, Schein (1996) suggests that a group's learning over time becomes encapsulated as the group's culture. According to Schein, as members confront challenges they surface, adopt and test the ideas of influential members. If the results are successful, the assumptions and values associated with the ideas are embraced as valid as they worked *well enough* to produce a satisfactory outcome. Over time, the group develops a shared schema that becomes internalized as a set of basic assumptions and externalized as norms, espoused values and routines.

While social interaction has traditionally relied on physical proximity and joint activity, the development of technology tools that facilitate virtual interaction may be changing the playing field. For example, Kellogg, Orlikowski, and Yates (2006), employing the analogy of a trading zone, suggest that community collaboration does not require shared interpretations or meaning making amongst members. Rather, “provisional agreements” provided just enough direction for members to begin work, and tools for making the work visible and transparent enabled the community to remain in “dynamic alignment.”

Academics have also turned their attention to exploring the rich interplay of feed forward and feedback mechanisms that enable learning to occur and flow between individuals, groups, the whole organization and between organizations and their partners (Inkpen & Crossan, 1995; March 1991, Nonaka & Takeuchi, 1995; Spender, 1996). For example, Nonaka’s (1994) knowledge spiral process, describes learning as flowing from the individual, to the group, to the organizational level. Crossan’s 4 I framework suggests that at the individual level, learning occurs through a process of *intuiting* and *interpreting* which creates a change in individual beliefs and behaviours. At the group level, learners work through a process of *integrating* to produce shared beliefs and co-ordinated actions. At the organizational level, the process of *institutionalizing* enables the development of organizational schemas that are reflected in systems and routines. In turn, organizational systems and routines influence group and individual learning (Inkpen & Crossan, 1995).

Organizational features that promote learning

Others, primarily those working from the *organizations can learn perspective*, suggest that an organization’s ability to learn is dependent on a host of organizational features (Inkpen & Crossan, 1995; Levitt & March, 1998). In answer to the call for adaptable and responsive organizations, ones in which learning is the norm, not the exception (Srikantia & Pasmore, 1996) scholars have identified a number of pertinent features including a firm’s learning intent (Inkpen & Crossan, 1995; Nonaka & Konno, 1998), strategies supporting innovation or capability development, enlightened leadership and distributed authority (James, 2003; Vera & Crossan, 2004), norms and belief systems supporting learning (Simon, 1991; March, 1991; Levitt & March, 1998), the use of whole systems planning and decision making forums (Dannemillar & Jacobs, 1992), processes and tools that permit the flow or transfer of knowledge between individuals and groups (Zander & Kogut, 1995), and support and legitimacy of practitioner oriented learning (Brown & Dugid, 1991).

A firm’s learning intent has been defined as the value it associates with acquiring new knowledge, the methods it employs, and the focus or direction of the learning agenda (Inkpen & Crossan, 1995; Nonaka and Konno, 1998). Referring to a firm’s learning intent as *Ba*, Nonaka (1991) suggests that the space leaders create for learning— physical, mental, and emotional— provides the context or energy and drive for learning amongst organizational members. Others, exploring the question of how a firm should determine the drive and focus for learning, have identified the firm’s strategy (Zack, 1999) or strategic posture (Fiol & Lyles, 1985) as the leading factor. In a related vein, Chandler (1992), employing a resource-based view, argues that how a

firm defines its strategic capabilities and distributes its resources sets the focus for establishing a potent learning need amongst organizational members. Still others, primarily working from a social constructionist paradigm, point to the extent to which a firm's leaders support the informal and emergent learning opportunities of its members to be a primary factor (Lave & Wenger, 1991; Wenger, 2006).

Alternatively, organizations like people, have been attributed with having interpretive schemas (Daft & Weick, 1984), memories (Hedberg, 1981), and learning preferences or styles (March, 1991; Yeung, Ulrich, Nason, & Von Glinow, 1999) which influence what members pay attention to as well as the degree of flex members have to respond to new stimuli and incorporate new knowledge.

Referring to past learning as a *code*, March, (1991) describes a reciprocal learning cycle whereby organizations learn from their members and over time, embed this knowledge in strategies, procedures, norms, protocols, and forms. In praise of wayward individuals, March highlights the significance of deviants or "slow learners" who "stay deviant long enough for the code to learn from them" (p. 78). In turn, the strategies, protocols, norms, and forms become an organizational code that influences individual member beliefs, behaviours, and openness to new learning.

This tension between taking in new learning through individuals and leveraging past learning through organizational strategies and features is represented in March's (1991) foundational construct of exploration and exploitation. Defining exploration as the organization's ability to seek out or develop new ideas via experimentation, discovery, and search processes, and exploitation as an organization's ability to apply, transfer, refine, perfect, and spread knowledge, March argues that organizations must strike the right balance between acquiring new ideas and exploiting them to remain viable.

According to March, firms that over rely on exploration create new ideas for products or services that do not get tested or developed. Conversely, firms that rely too heavily on exploitation fall into habitual patterns that prevent innovative responses to emerging trends and opportunities. While organizational rejuvenation and sustainability require both exploration and exploitation, March suggests, and others have confirmed (Yeung, Ulrich, Nason & Von Glinow, 1999), that firms tend to prefer exploitation of known alternatives to the exploration of unknown ones. More recent work exploring the factors enabling a firm to strike the right balance between exploration and exploitation has been referred to as organizational ambidexterity (Raisch & Birkinshaw, 2008; Raisch, Sebastian, Birkinshaw, Probst, & Tushman, 2009).

A host of factors have been identified with a firm's ability to acquire and exploit new knowledge. Yeung and colleagues (1999) found that firms tend to have a preference or habitual style for how they acquire new knowledge. Building on the work of March (1991), the researchers found that firms tend to have a preference for either exploration (seeking new

knowledge) or exploitation (harnessing the knowledge of others) on the one hand, and for leveraging the expertise of internal resources or external partners, on the other. For example, firms preferring to create new knowledge via internal experts tend to develop an experimental or innovative learning style, while firms who prefer to exploit the knowledge of others, tend to rely on benchmarking as a preferred learning strategy. Thus firms, like people, can be said to have a preferred or habitual style for acquiring new knowledge.

An organization's ability to exploit new knowledge has been attributed to how well it is able to act on the new insights (flexibility and speed), how extensively it is able to spread new insights to other parts of the organization (breadth), and the degree to which it embeds the learning in organizational features such as norms, protocols, products, processes, and structures (depth) (Redding & Catalanello, 1994; Yeung, Ulrich, Nason, & Von Glinow, 1999). Typical knowledge sharing or brokering cycles include processes and systems to capture new learning, codify it in a useful form or prototype, and store it for easy retrieval. (Becerra-Fernandez & Sabherwal, 2008; Haragdon & Sutton, 1997; Olivera, 2000)

While databases, archives, and file cabinets are useful for capturing and storing data and codified knowledge so that it can be shared over time and across organizational boundaries, it has been widely acknowledged that the quality of learning relationships amongst practitioners is a foundational tenant to spreading knowledge between people and groups (Cross, Parker, Prusak & Borgatti, 2001; Inkpen & Crossan, 1995; Mintzberg, 1975; Schein, 1999; Wenger, 2006). Impersonal sources, used independently, do not enable the learners to interact, sensemake and explore important nuances for how the knowledge might apply to the situation at hand. In a study exploring the methods by which managers prefer to acquire new knowledge Cross, Parker, Prusak and Borgatti (2001) found people, and not archives, were their preferred source of acquiring new knowledge. Learners reported that the impersonal sources of information became useful *after* they had acquired relevant knowledge from colleagues, as a source of supportive information or detail. Four features were identified as precursors to an effective learning interaction: 1) knowing what others know, 2) having access to those in the know, 3) a willingness of those in the know to share with and educate others, and 4) the extent to which the learner felt safe (psychologically) to ask for and receive the learning.

Alternatively, describing organizations as interpretive systems, noted theorists Richard Daft and Karl Weick (1984, 1999) have attributed interpretive schemas to organizations that, in turn, influence how organizational decision makers notice, attend to, and interpret the signals in their environments. In turn, different interpretations lead to different organizational responses, which ultimately shape strategy, norms, form, and protocols for learning.

Daft and Weick's (1984) account of discovering versus enacting organizations provides a useful lens from which to explore how different interpretive schemas influence the nature and type of organizational learning. In a *discovering organization* managers assume that the environment is predictable and analyzable. Following, managers attempt to adapt and learn by setting predictable performance goals for continuous improvement efforts. Conversely, managers in an

enacting organization assume that the environment is unpredictable and malleable, and therefore innovate and learn through trial and error experimentation. Here, managers understand that as they learn and apply their learnings, they in turn co-create or enact an enriched environment. The world transforms as they transform.

Independent of how a firm defines its features, it is widely appreciated that these contextual factors shape individual and group learning. As Elena Antonacoulou (2006) suggests, having explored the relationship between individual and organizational learning “perhaps ...individual learning in some respects is as good as the organizational context in which it takes place. At best, individual learning reflects/mirrors ... the lack of organizational learning” (p. 468).

Key insights and propositions from debate 2: Can organizations learn?

Whether one adopts the perspectives of Simon (1991) or Hedberg (1981), the scholarly community agrees with the following: 1) learning occurs through and amongst people, 2) organization context, and the past learning of members, plays a significant role in what people learn and how the learning is applied and shared, or not, and 3) while organizational members may acquire knowledge, if that knowledge does not flow to others so that it can be applied and shared, the organization will not have benefited from the learning.

At the root of organizational learning is the notion that organizations, through their members, must be able to acquire new insights and act on them, thereby renewing the context from which future learning will bud. Acquiring and leveraging new insights/abilities is dependent on what individuals already know, their perceptual filters, their motivation to learn, their opportunities to learn, and the mechanisms in place to enable the acquisition of knowledge. Quality learning interactions, therefore, require an environment in which potential learners, working collectively, have ample opportunity to experience a perceived need. Once need has been activated, learners must have ample opportunity to seek out new insights and behaviours. While easily codified insights and behaviours can be readily exchanged through verbal and written instruction, tacit knowledge must be internalized through experience. Here, practice and reflection through mechanisms such as experimentation, coaching, and mentorship are the best teachers.

Individual knowledge is shared, combined, expanded, tested and applied amongst individuals to become group or community knowledge. As that knowledge is captured and spread amongst other members or, as some suggest, embodied in organizational features (Hedberg, 1981), it becomes part of an organizational context or *code* that in turn influences what and how groups, communities and individuals learn. The code continues to evolve as it consumes the learning of individuals and groups.

Vera and Crossan (2004), suggest that this tension between acquiring and assimilating new learning and exploiting or leveraging what has already been learned represents the basic challenge of organizational learning. Perhaps the best test of whether an organization has

learned, is the extent to which its context and infrastructure supports and enables continuous learning (of both people and the code). Here, scholars have identified a number of enabling features from enlightened leadership and distributed authority (e.g., Vera & Crossan, 2004) to mechanisms that permit the flow or transfer of knowledge between individuals and groups (e.g., Zander & Kogut, 1995). Those working from a post modernist perspective suggest that learning is best developed, harnessed, and shared through practice. Here, the role of enlightened leadership is to recognize and support the innovations that arise from practice and to provide practitioners legitimate access to their communities (Brown & Dugid, 1991).

FACTORS FACILITATING LEARNING IN ORGANIZATIONS

What can we make of this collection of voices? Guided by our inquiry into the central questions of, “what is learning?” and “can organizations learn?” we can surface the following propositions:

Proposition 1: Learning is both a cognitive and a behavioural process whereby new insights lead to new behaviours (or have the capacity to) and/or new behaviours lead to new insights. While cognitive and behavioural change may be separated by a time lag, they may also occur simultaneously, as per Lave and Wenger’s (1991) learning-in-working, or Barrett’s (1998) learning as improv concepts. Learning is distinguished from mere “unreflective action taking” in that cognitive development is either an antecedent to, or an outcome of new behaviours and capabilities (Fiol & Lyles, 1985).

Proposition 2: Learning is increasingly viewed as an active, social, and dynamic process, facilitated through people reflecting together and acting together. Accordingly, the quality of learning interactions amongst people and communities is a core resource that must be nurtured and maintained.

Proposition 3: Learning has an intimate relationship with knowledge; it is the process that brings about a change in know what (cognition) and/or know how (behavioural).

Proposition 4: Knowledge is dynamic; it becomes useful, and takes on meaning, as members apply it to organizational challenges. The concept of *knowing* refers to members’ abilities to exchange, combine and advance their ideas and skills through work related practice.

Proposition 5: While learning is *acquired* through a cognitive process of reflecting and/or through a behavioural process of doing, learning is *exploited* (and can also be further developed) through a process of applying, spreading and embedding the knowledge. To remain viable, firms must strike the right balance between enabling people to acquire new knowledge and to spread and harness what is known.

Proposition 6: Learning in organizations is a multi-level pursuit, occurring through individuals, amongst groups and communities and embedded through routines, norms and other organizational features.

- At the individual level, knowledge is acquired and accumulated in the learner’s mind (know what, mental models, schemas) and behaviours (know how, expertise, craft, application).

- At the group or community level, social interaction and joint initiatives enable members to acquire, surface, combine and apply knowledge. Group or community knowledge is stored in cognitive mechanisms such as group norms, mindsets and schemas and through behavioural mechanisms such as practice standards, routines and protocols.
- At the organizational level, as knowledge is captured and embedded—in peoples' heads as schemas or in organizational features such as strategies, structures, processes, systems, and norms—the organization develops context or a *code*. In turn, the organizational context influences the future learning of individuals and groups, both the focus of their learning as well as how the learnings are applied, leveraged and spread. Those following the tradition of Hedburg (1981) suggest that embedded knowledge means that the organization has learned.

Questions, Not Answers

Given that we have come to define learning as a multi-faceted personal, yet social phenomenon, that is both situation and context specific, it would appear that a *one size fits all* definitive framework of learning in organizations is inconsistent with reality. Perhaps instead, a more useful approach might be to provide a set of powerful questions that, when asked and answered, shed light on the path to fruitful learning amongst organizational members. An attempt at those questions, with commentary around their potential value, is offered below.

1) What's our learning agenda?

- a) Given our organization's business, operational model, and strategic goals, in which areas do we need to excel? In other words, given our strategic goals, what do we need to be really good at and what do we need to learn?

Commentary

If we assume that the intent of learning in organizations is to improve performance (Fiol & Lyles, 1985; Vera & Crossan, 2003), then the question becomes *what* learning leads to firm performance? As Vera and Crossan (2003) reason, "if learning and knowledge are not relevant to, and consistent with a firm's purpose, they do not guarantee positive results" (p. 20). Inkpen and Crossan (1995) and Nonaka and Konno (1998) point to a firm's learning intent, defined by how it focuses and directs the learning agenda as well as the value it associates with acquiring new knowledge, to be of primary importance in setting the direction, energy and tone for learning within an organization.

In this same vein, Zack (1999) asked the question "how should a firm determine which (learning) efforts are appropriate, or which knowledge should be managed or developed" (p. 125). He found a firm's strategy to be the most important contextual variable for guiding the learning agenda. Building on the work of Chandler (1990, 1992), who argues a resource-based view of the firm, Zack defines a firm's knowledge strategy "as the overall approach an organization intends to take to align its knowledge resources and capabilities to the intellectual requirements of its strategy" (p. 135). Given a firm's assumptions about the complexity and adaptability of their environment, firms will favour either planned or emergent strategies with

learning agendas that follow. Following Daft and Weick's (1984) account of enacting and discovering organizations, enacting firms will be more supportive of the vicarious, emergent learning of members while discovering organizations will necessarily rely on a more planned, top down approach.

Taken together, a firm's knowledge, or learning strategy, begins with the question: Given our strategy, what do we need to excel at, both *know what* and *know how*? Given those capabilities, what do we need to learn? What resources do we need to put in place to develop and harness those capabilities? Capabilities can be attitudinal, such as a joint appreciation for innovation or customer service, relational, such as a robust partnership with a key supplier, as well as technical, structural, skills-based, or process-oriented.

Ideally, the learning strategy will be scalable to units within organizations, cross unit endeavors, and individual roles. Amongst individuals and groups, the learning agenda can be facilitated in a number of ways including the setting of stretch goals (Ram & Leake, 1995), scanning activities to reveal a shift in expectations (Nonaka 1991; Spector, 1989), after action reviews (Garvin, 1999), and challenging experiences that call for new thinking and responses and support emergent learning (Brown & Dugid, 1999; Lave & Wenger, 1991).

2) Given the learning agenda or capability domains identified, who needs to learn?

- a) What new insights and behaviours are required amongst individuals? Who are they?
- b) What new insights and behaviours are required amongst groups or communities? Who are they?

Commentary

Since all learning occurs through and amongst people, it stands to reason that the question of *who* needs to learn is of critical importance. In essence, because we have defined learning as an active, social, and dynamic process that is dependent on the interplay between people, the situation and practice, people cannot learn if they are not insiders, fully engaged in the process of understanding the many dimensions of the challenge and testing the solutions.

How do we define who's "in" or who needs to develop new thinking and/or new behaviours? Depending on a firm's learning agenda or knowledge strategy, the learning may be required at the strategic or operational level or both, within or between units, within or between communities, amongst key individuals and so on. Moreover, for a learning strategy to be fully realized, often the learning must flow between organizational levels and across groups, as in the case of a new strategy conceived by top leaders and operationalized by a network of unit managers.

Thinking holistically about *who* needs to learn, so that strategies can be fully realized and capabilities leveraged, must become a critical role of organizational leaders. In fact Schein (1996), Mintzberg (1994), and others point to the creation of mutual learning experiences

amongst disparate groups in organizations as a primary enabler to whole systems change. When sub-groups (mainly those who operate on the front line, those who engineer systems and those who lead) are isolated from each other during change, claims Schein (1996), the cultures collide and failure occurs. Schein's antidote is to create mutual learning experiences amongst stakeholders so that joint needs can be felt, common insights developed and joint actions envisioned and realized.

Authors of whole systems change strategies have developed deep expertise in defining and working with multi-stakeholder communities and their wisdom is instructive here (Manning, & Binzagr, 1996). At its most basic level, mutual learning experiences enable people to see beyond their habitual patterns of thought and action and to diagnose their challenges collectively from a wider-angle view. As new learning is facilitated and absorbed through dialogue and action, the players become rooted in a deep sense of knowing that provides a context for moving forward collectively. In essence, *who* learns in organizations and what they learn collectively shapes the flow of the organization's evolution.

3) Given the capability domains identified and our understanding of who needs to learn, how will we facilitate the learning?

- a) Is the knowledge we are seeking to develop more explicit or tacit in nature?
- b) How will our answers around *who*, *what*, and *how* shape our learning approach?

Commentary

As we have previously discussed, learners may acquire new insights or skills through a multitude of mechanisms including experiential learning, active search and acquisition processes, trial and error experimentation, grafting or shadowing others, benchmarking and learning-in-working scenarios (Brown & Dugid, 1999; Huber 1991; Lave & Wenger, 1991; Yeung, Ulrich, Nason, & Von Glinow, 1999). However, before new insights can be acquired or new skills adsorbed, learners must first have a sufficient cognitive base to notice, pay attention to and assimilate information into *know what* or *know how*, otherwise the opportunity for learning will be lost (Inkpen & Crossan, 1995).

Accordingly, the process of acquiring new knowledge is not one of a simple receptivity, whereby veridical knowledge is tossed over the fence to those who catch it. Acquiring and leveraging new insights/abilities is dependent on what individuals already know, their perceptual filters, their motivation to learn, their opportunities to learn, and the mechanisms in place to enable the acquisition and application of knowledge.

The first question for organizational leaders therefore becomes, how will we work with the identified learning population(s) to create a sense of *need and conviction*? To establish a sense of need, learners must be exposed to information, feedback and experiences that challenge them to see beyond their habitual thoughts and behaviour patterns. Typical activation mechanisms include the setting of stretch goals or discovery missions or being immersed in challenging experiences that call for learners to experiment and learn by doing (Brown & Dugid, 1999; Lave

& Wenger, 1991). All of these activation mechanisms can foster learning at the individual, group and whole systems levels.

Once need has been activated, a learner's motivation or conviction to carry through with the learning is influenced by a number of personal and cultural factors. Stemming back to Victor Vroom's (1964) expectancy theory, it has been widely recognized that factors such as a learner's goals or aims, the learner's existing competence and the learner's assessment of organizational support appear to be determinants of conviction, pointing to the complex interplay between individual, group and organizational factors.

Next, learners must have ample opportunity to seek out new insights and behaviours on the one hand and test, apply, and refine the insights/abilities on the other. The distinction between information and tacit knowledge (Zack 1999, Nonaka 1994) is helpful in selecting appropriate acquisition methodologies. While information can be codified and more easily shared via reports, lectures and databases, the acquisition of new conceptual insight, technical skill or artistic craft must be absorbed through social interaction and experiences. Here, the main mechanisms of knowledge transfer are conversation, apprenticeship, and joint experiences like trial and error experimentation (Becerra-Fernandez & Sabherwal, 2008).

Learning amongst groups, communities, and partnerships requires the exchange, synthesis and broadening of individual member knowledge to create synergistic and collective knowledge amongst the group. Thus, group or community level learning depends on and builds from the knowledge and worldviews of individual members (Fiol, 1994) and requires an opportunity for learners to join around a common cause, exchange ideas and insights and combine knowledge. Accordingly, learners must be involved in processes, forums, networks, partnerships or communities that enable the requisite social interaction (exchange, synthesis, co-creation) amongst colleagues.

4) What's the current interpretive framework amongst our leaders?

- a) What are our underlying assumptions about the complexity and adaptability of the environment?
- b) How do these assumptions influence our learning styles?
- c) How do we test the viability of our assumptions and approaches?

Commentary

Whereas embedded learning (of the code variety) captures what an organization has learned, knowledge is never absolute in that "neither the individuals nor the organization experience reality" (March, 1991, p.75). Rather, learning relies on how organizational members interpret ambiguous and ever shifting cues and it has been well documented that people are imperfect information processors (Neisser, 1979).

Daft and Weick (1984) suggest that the leaders' views of the predictability and competitiveness of the environment influence the patterns of how new knowledge is sought, with leaders

viewing their environments as complex and unpredictable more likely to employ trial and error experimentation and those who view their environment as predictable and stable to rely on routine acquisition strategies. Past learning, therefore, influences the degree of flex the system has to respond to new stimuli and incorporate new knowledge.

Organizational leaders, at all levels, will be well served by reflecting on their interpretive frameworks. From time to time, leaders might surface their assumptions about the complexity and predictability of their environment and ask if their assumptions are still valid or serving them well? Given our multi-level goals, are our interpretive frameworks preventing or enabling us from noticing or responding to new trends, events, and developments? How are our assumptions influencing our approach to learning? How might we shift our perspective so that we can see and adapt more readily? The answers to these questions will, in turn, influence the organization's learning intent and knowledge strategy.

5) Given our learning agenda, what's the required speed, depth and breath of the learning? How will we support learning transfer?

Commentary

Recognizing that individuals hold knowledge and expertise, the challenge for organizations becomes one of tapping individual knowledge so that it can be combined, exchanged, and spread. If the knowledge has not been shared and embedded, organizations can forget and lose knowledge (de holan & Phillips, 2004), as in the case of the U.S space agency NASA, who has, according to David DeLong (2004), forgotten how to land astronauts on the moon. An organization's infrastructure for applying new insights (flexibility and speed) spreading new insights to relevant others (breath) and embedding new insights (depth) is critical to the exploitation process (Redding & Catallano, 1994; Yeung, Ulrich, Nason, & Von Glinow, 1999).

Theorists (e.g., Mintzberg, 1975) have long known that while information and hard data can be captured and stored via databases, archives, file cabinets and the like, it is often the softer, tacit knowledge stored in peoples' minds that is useful. However, tacit knowledge acquired by people and groups is difficult to see, touch, and codify, making it cumbersome for organizations to capture and store what their members know (Huber 1991). Knowledge sharing is a tricky business. Not only are members rarely aware that they or others have useful knowledge to share, but the meaning and usefulness of knowledge shifts, as it is distributed to others working in different contexts (Inkpen & Crossan, 1995). When members are not aware of the significance of their learning to others and/or when members do not know that others have useful knowledge, sharing rarely occurs (Crossan, Lane & White, 1999).

Accordingly, in addition to capturing and storing knowledge in technical databases and systems, organizations must take a multi-pronged approach to knowledge transfer. To overcome a lack of awareness of what others know, organizations are experimenting with knowledge yellow pages or profiling systems, knowledge fairs, and expert exchanges. To facilitate knowledge access, organizations are redesigning their physical infrastructures to

promote serendipitous exchanges between people (e.g., open office spaces, family style kitchens), as well as rewards for knowledge sharing. To facilitate engagement in joint learning activities, organizations are supporting communities of practice, formalizing peer assist and mentoring programs, and promoting job rotation assignments amongst units who might benefit from collaboration. Engagement opportunities are increasingly virtual. Kellogg, Orlikowski and Yates (2006), point to the importance of shared space for gathering on-line and a set of processes and norms for enabling the requisite interaction. Finally, to promote a psychologically safe learning context, firms are developing tangible markers of their commitment to learning via codes of ethics, orientation programs, and the like.

6) Given our learning agenda, what does a supportive context look like? How can we ensure that the context (or code) expands and adjusts to enable and embed new learning?

Commentary

Perhaps the best test of whether an organization is designed for learning is the extent to which its code (the organizational features) supports and enables continuous learning of both people and the code.

With this question, we come full circle. As we have previously discussed, a firm's learning intent, knowledge strategy, interpretive schemas, learning style, infrastructure for knowledge exploration and exploitation all combine to become the contextual stew for learning. While it is individuals who are responsible for acquiring new insights and enacting new behaviours, support for learning comes from one's environment in the form of the cues from bosses, strategic goals, standards, rewards, norms, available technologies, and the like. Should these cues signal that the learning is not valued, supported, or necessary, individual conviction may wane and learning will be stifled. Individual and group learning is therefore encouraged or impeded by the organizational context.

For good or bad, an organization's leaders are in a pivotal position, whereby they have both the perspective and authority to design the learning intent, agenda, and architecture of the firm. The question therefore becomes, are our leaders equipped to facilitate learning? Do our leaders set multi-level learning goals and allocate resources accordingly? Are they the glue that connects the necessary webs of learners? Do they focus on systems and policies that spread learning and knowledge throughout the organization? Do they know where knowledge is stored and how to retrieve it? Are they conduits for change?

SUMMARY

While organizational learning is a relatively new field, its short life has been rife with debate. Debate can be a blessing or a curse. As a blessing, it can lead to intellectual tolerance, curiosity, and innovative advances. As a curse, it can lead to intolerance, arrogance, and rivalry, with "my theory is better than yours" thinking. This paper was aimed at finding the intellectual blessings

that have surfaced and been explored in the literature with a view to searching for a complimentary set of factors that, if present, just might tip the balance towards fruitful learning amongst people in organizations.

Based on the combined wisdom in the literature, I defined learning in organizations as a multilevel process whereby members individually and collectively acquire knowledge by acting together and reflecting together. Knowledge is acquired, or created, and applied by individuals. In turn, individual knowledge is shared, combined, expanded, tested, and applied amongst individuals to become group or community knowledge. As that knowledge is captured, spread and embedded in organizational features, such as strategies and protocols, it becomes part of an organizational context, or code, that, in turn, influences what and how groups, communities, and individuals learn. The code continues to evolve as it consumes the learning of individuals and groups.

If organizational learning is so easily explained, then why is organizational learning capacity a sought after, yet difficult to achieve, strategic capability? In other words, if organizational learning is so clear-cut, why aren't most organizations expert learners?

Through this paper I've come to realize how complex the task of facilitating learning in organizations is. While much prior work has focused on the processes associated with learning and the generic organizational features that facilitate it, it is only recently that theorists operating from a post-modernist perspective have begun to shine the light on the myriad of fluctuating contextual factors that influence individual, group and whole systems learning.

Perhaps these factors are best identified and understood, not in a *one size fits all* neat and tidy framework, but rather from a set of open-ended questions that facilitate learning conversations amongst organizational leaders. Rather than searching for the ultimate recipe for learning, I offer a set of questions as a starting place for this exploration. The questions and commentary are meant to tap into the tremendous amount of wisdom that has been generated in the area of organizational learning. As new learnings are discovered, new questions will necessarily be considered. How leaders answer those questions, given their specific needs, goals, history, and context, will define their approach to learning; one that is customized for their needs, based on the best knowledge available.

What might the DNA of a learning organization look like? What mindsets will facilitate learning? What strategies should be employed to explore and exploit the necessary learning? Perhaps the best advice that one can offer is, it depends.

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