Team Effectiveness and Organisational Learning: A Conceptual Framework

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ABSTRACT

This paper explores the link between team effectiveness and organisational learning. Our first purpose is to argue that team learning is the principal means for achieving team effectiveness. Underpinning the relationships between effectiveness and learning are learning domains. We discuss how four broad learning domains (enlightened, embedded, embodied, and enabled) have been underplayed in the team's literature yet underlie the behavioural patterns that teams employ. We develop a conceptual framework of the learning domains that helps to define in learning terms the link between team inputs, processes, and outputs. The paper explores the importance of developing the actual behavioural routines that underpin team behaviour. We then discuss how various behavioural routines are linked to the framework we propose. The paper is a preliminary investigation of the conceptual links between learning and team effectiveness and is expected to make a substantial contribution.

Key words: Learning domains, team effectiveness

INTRODUCTION

In this article, our first purpose is to argue that team learning is the principal means for achieving team effectiveness. Here we propose that team learning acts as a bridge between learning at the individual and organizational level (Crossan, Lane & White, 1999; Murray & Moses, 2005), mirroring the belief that team learning is both a process and an outcome (Day, Gronn, & Salas, 2004). Very little literature with some exceptions (Edmondson et al., 1999; Edmondson, Roberto, and Watkins, 2003; Chan et al., 2003; Bunderson & Sutcliffe, 2003), has examined the relationships between team learning and team

effectiveness. The absence of a coherent study of the latter suggests that team learning has been underplayed perhaps even undervalued.

We define learning domains as a group of clustered learning behaviours, beliefs, and workplace strategies that help to define, prescribe, and achieve effective team processes and outputs in learning terms. Our particular focus here is on integrating the domains in such a way that developing a coherent framework is possible. Our second purpose then is to develop a conceptual framework to address the integration of team learning and team effectiveness. Four learning domains are recognized: enlightened, embedded, embodied, and enabled learning. We describe these in detail below. First, we discuss a number of assumptions related to learning in teams as a basis for developing the conceptual framework.

We suggest that organisational learning routines help to determine the quality of interaction and interpersonal (enlightened domain) team skills (assumption 1). The basis of assumption 1 is the link between learning routines and an individual's interpersonal and interactive domain. How do individuals improve the level of communication? How do they become enlightened team members? *Enlightened* team activity refers to well developed interpersonal skills and the ability to interact at a high level with others. More enlightened interaction it is suggested is not achieved by one person dominating discussions at the individual level, or by groups who have an illusion of invulnerability (Janis, 1972). The most likely outcome of weak interaction is the development of a lack of shared understanding and coordinated action leading to poor integration (Crossan, Lane, & Hildebrand, 1993), and poor team design (Wageman, 1997), with many performance goals at stake.

In moving to assumption 2, we suggest that organisational learning provides the link between building organizational capabilities (embedded domain) and their effective use (embodied domain) inside teams. Several aspects of organizational learning are relevant. Most if not all organizations possess a technical orientation and organizational arrangements are less adaptable as a result (Mintzberg, 1979; Pawar and Eastman, 1997). Teams can be caught up in a predisposition to systems and technical routines dictated by policies to the detriment of team effectiveness. *Embedding* a set of values designed to increase the capability of the human capital stock (Wright, Dunford, & Snell, 2001), has less priority. Instead, an obsession with the technical core is consistent with structured-driven and lower-level learning (Fiol and Lyles, 1985; Murray and Donegan, 2003), dominated by efficiency routines where decision outcomes are

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defined by plan-do-check-act (Deming,) or discover-choose-act (Stacey, 1996) cycles. These routines are easily transported into groups. Higher-level learning routines are the antithesis of structure; new learning routines can be fostered through the development of knowledge practices (Wenger and Snyder, 2001), dynamic leader activity such as coaching and functional leadership (Hackman and Wageman, 2005; Zaccaro et al., 2001), and group practices aimed at relaxing boundary controls and increasing the level of ownership (Guzzo, 1986; Hackman and Oldham, 1980). *Embodied* in team members are new learning skills (e.g. improved environmental scanning) that contribute to greater team effectiveness. Organisational learning here provides a link between intuition, thinking, and action; managers might achieve behavioural change by increasing the number of tasks (actions) one has to do but merely increasing the number of tasks does not always lead to cognitive change (Hedberg, 1981; Kets de Vries, 2005). Similarly, cognitive change may not lead to behavioural change in less willing subjects. New organizational learning routines provide the link between the two by linking concepts to action.

For assumption 3, we suggest that organisational learning routines play an underpinning influence in team strategies and actions (enabling domain). Team learning is enabled by specific action strategies and vice versa. *Enabling* strategies are expected to vary to market dynamism; an organizations response will depend on the degree of firm-specific dynamic capabilities. Any organization requires a set of enabling strategies designed to enhance organizational capability that facilitate the implementation of various team strategies. Due to new learning behaviors that have been enlightened, embedded, and embodied in team processes, team capabilities are potentially enhanced. Subsequently, members' ability to engage in experiential actions to learn quickly and to rapidly create new knowledge about the current situation (Eisenhardt & Martin, 2000: 35) is increased. The latter will depend upon the type of enabling programs however in place. Next, we outline the learning domains.

THE FOUR LEARNING DOMAINS

Enlightened Domain
The enlightened domain is represented by two sub categories: interpersonal and interactive. *Enlightened* learning behaviours refer to dynamic listening and talking skills that expose and highlight organizational issues through any medium or forum designed to maximise the quality of free-flowing interactions. Enlightened behaviours will always be at the level of the individual and team since organizations don't

learn (Hedberg, 1981), rather, individuals communicate their aspirations and concerns to others at the same level, or at the level of the team. It is suggested however that organizations create interactive domains (e.g. meetings, socialization), as a way to enhance and maximize free-flowing talk. Poor interpersonal skills have been at the forefront of inquiry by many team and organizational learning scholars (Cannon-Bowers et al., 1993; Amason et al., 1995; Huber, 1991; Manz and Neck, 1995). Here we shall focus on three negative aspects of interpersonal relations that influence both the individual and team. We will then explore how organisational learning routines can be used to reverse negative cause-effect relationships.

Interpersonal Domain

First is the notion of *groupthink*. The groupthink phenomenon (Janis, 1972) suggests that the value, identity, and capability of each person has been lost in the overemphasis on the group (Manz and Neck, 1995: 12). Maintaining cohesiveness overrides independent thinking as members strive to agree with one another. While research suggests that the effect of cohesiveness on groupthink may depend on how cohesiveness is operationalized and conceptualized (Hogg and Hains, 1998), with a negative relationship between cohesiveness and groupthink found in some studies (Moorhead & Montanari, 1986), other more established work has found that groupthink impoverishes decision-making (Tetlock et al., 1992; Hogg and Hains, 1998: 337), supporting the original proposition. Preserving group conformity in this context impoverishes interpersonal talk designed to challenge and test assumptions. Groupthink symptoms are abhorrent to enlightened learning. Individuals engage in self-censorship, and verbal and non-verbal pressure towards conformity is applied to individuals who challenge the group's cohesive routines. The second negative aspect is A-type conflict (affective conflict). *Affective* conflict refers to disagreements over personalized, individually oriented matters that provoke hostility, distrust and apathy (Rahim, 1983; Jehn, 1994; Amason et al., 1995: 24). Open communication is obstructed through cynicism and team members engage in avoidance tactics. While teams generally enhance an individual's capacity to share, both A-type conflict and groupthink serve to work in reverse. Team effectiveness is impoverished since individuals are not willing to enter into discussions designed to synthesize their different perspectives, and the quality of communication is reduced.

The third negative aspect is poor interpretive skills as a result of a lack of shared understanding or shared mental models. *Interpretive* skills refer to the capacity of a team to scan the environment and to create a

shared mental model capable of encoding information, processing, and anticipating an appropriate superior team response (Crossan, Lane, & Hildebrand, 1993; Cannon-Bowers, 1993; Huber, 1991). Well-developed team models allow team members to anticipate each other's actions reducing the amount of processing and communication required during team performance (Zaccaro, Rittman, & Marks, 2001: 459). Poor interpretive skill is a reflection of poor interpersonal relations as much as a lack of complexity in an individual's mental model relating to how one sees the world (Crossan, Lane, & Hildebrand, 1993). Fuzzy communication leads to a lack of understanding about collective action, task requirements and changes in response to the environment, and misunderstandings about team member roles.

Interactive Domain

Several organisational learning behaviours underpin the interactive domain and these can be best described as various communication mediums or forums. For instance, proactive inquiry and questioning can be used as a learning routine to challenge the assumptions of groupthink that lead to self-sealing and defensive routines (Argyris, 1993). Team members respond according to their theories-in-use, subconscious behaviours designed to communicate what one *thinks* others want to hear rather than what others *need* to hear. What is communicated through theories-in-use is different to what is espoused or truly believed. An interactive forum that allows individuals to challenge and test their assumptions forms the basis of a different learning routine. Similarly, C-type conflict (the opposite to A-type), reinforces this type of learning routine. C-type or cognitive conflict focuses on substantive issue-related differences of opinion. Cognitive conflict occurs as team members examine, compare, and reconcile differences (Amason et al., 1995: 22). The learning aspect of cognitive conflict concerns an attack on the assumptions driving decisions. Frank communication and open consideration of different alternatives are posed and the skills and abilities of team members are promoted. Members become enlightened since a call to proactive inquiry underpins free-flowing talk and people see the issues in a different light.

Forums in interactive routines designed to foster cognitive conflict and to surface the true beliefs espoused underlie the importance of the enlightened domain. Interactive forums can be represented by two ways designed to conceptualise and operationalise the enlightened domain. The first is more common (e.g. teleconferencing, meetings, socialization activities). Scholars suggest that socialisation activities such as laughing and joking for instance is an important ingredient in team building (Poole,1983a; 1983b), and research related to the importance of social attraction through socialization on group performance where

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in-group members are liked is substantial (Hogg & Hains, 1996; Tajfel & Turner, 1979). The key issue here regardless of the formal or informal nature of interaction is that people need to talk and communicate. Any forum that promotes and allows people to interact more freely and to feel that their opinions are highly valued is worth considering. The second concerns the actual decision-making environment managers create. A better interactive environment will be one that encourages proactive inquiry and questioning so that enlightened characteristics can emerge.

Embedded Learning

Embedded learning concerns not only the values and beliefs an organisation has towards the technical core, but also its ability to create strategic renewal and generate new capabilities. Organisational attitudes or *attitudinal domain* underlies the type of embedded beliefs an organisation has towards team learning and how the learning is manifested. For instance, we know that team building and group development techniques are imbued with the idea that breakthrough learning can be achieved by shifting behavior to higher-level learning (Fiol and Lyles, 1985; Argyris and Schon, 1978), and by testing and challenging deep-seated behaviors and traditions (Argyris, 1993; Murray and Donegan, 2003). Where does this capacity to learn come from? Collective learning skills point to the capacity of an organisation to establish competitive advantage by developing a dynamic attitude in building the organisations capabilities (Eisenhardt and Martin, 2000; Hamel & Prahalad, 1989). Embedded within the organisation are the capabilities, underpinned by learning, that become the driving forces for behavioural change. Embedded capabilities however need to find a balance between reinforcing values that reinforce much of the same on the one hand and updating and reinvigorating behavioural routines with new values on the other.

Where market boundaries are blurred and market players are ambiguous and shifting such as in high-velocity markets (Eisenhardt and Martin, 2000), more advanced team learning skills are required. From a learning perspective, new behaviours need to be embedded. Recent research by Murray and Donegan (2003) suggest that organizational learning behaviors can be classified into five levels. While levels one to three are consistent with the technical core mirroring standard practices and systems (simplistic and structured-driven learning), and incremental improvements embedded in efficiency metaphors (efficiency-driven learning), higher-level learning is constituted by new learning behaviours designed to create new learning values (Table 1). We suggest that a more concerted resolve to develop and instill dynamic capabilities will stem from an attitudinal domain that better reflects superior learning values. Accordingly,

team learning will benefit through the feed back and feed forward process since new values are proposed and institutionalized.

TABLE 1: Level of Learning and Change

Levels of learning	Behavioural routines
Dynamic-driven learning	Change is a way of life; critical questioning; high interpretive and integrative ability; organisation-wide commitment; continuous learning culture evident
Value-driven learning	Questioning decision systems; searching for incongruities; proactive engagement of innovation; worldview challenged
Efficiency-driven learning	Doing things right; concentrated on results, outputs, and experience curve
Structured-driven learning	Structured learning through systems, procedures, policy
Simplistic-driven learning	Ad hoc change, small incremental steps, experiential learning common

Adapted from Murray and Chapman (2003).

While embodied learning (discussed next) represents the actual things leaders and teams do to foster and improve team processes, what is embedded in team members are the actual learning values. The degree to which change-ready team members accept and/or respond to the programs designed to change behaviour so that team members become the embodiment of learning depends much on the embedded process.

Embodied Learning

This section will describe two aspects of embodied learning: leader domains and group domains. First, the actions of leaders across and within teams are addressed since most organisation functions are acted out in teams across the organisation. Second, group domains currently reflect much scholarly research related to team effectiveness and team processes. Our focus is on the learning routines that underpin a range of team processes.

Leader Domains

In turning to the first point, organisations are concerned with integrating different functional leader roles related to varying problem situations (Day, Gronn, & Salas, 2004) or shared leader roles (Ensley et al., 2003) in carrying out team activities. *Leader domains* underlie certain characteristics to improve learning such as honesty, trust, commitment, and vision across the organisation (Kets de Vries et al., 2002, Bass, 1995), raising the awareness of individuals and groups towards transforming organizational goals; team processes rely also on functional leaders whose generic responses will vary by different problem situations (Hackman and Walton, 1986; Zaccaro et al., 2001), or on shared leadership of most activities (Ensley et al., 2003; Ensley & Pearce, 2000).

Our approach to the leader domain closely follows the discussions and findings of several scholars (Hirst et al., 2004; Zaccaro & Klimoski, 2002; Day et al., 2004; & Edmondson, 2003). Here we integrate the functional approach to leadership in teams with leadership learning and the facilitative approach. We suggest that leadership learning plays a key part in the leadership domain and provides a bridge between functional and facilitative leaders. The functional approach concerns the need to 'get done' whatever is not being adequately handled for group needs (McGrath, 1984; Zaccari & Klimoski, 2002), and is mostly represented by individual leader actions that facilitate team progress towards goal attainment. The facilitative approach by comparison describes leaders who promote respect and positive relationships between team members, productive conflict resolution, and open expression of ideas and opinions (Hirst et al., 2004: 312). A facilitative approach is consistent with the interpersonal domain earlier described.

While these dimensions might represent strengths on one scale such as the skills of an individual leader to gather the necessary data and information for group activities, it most likely falls down on another - the reliance on one leader to provide team inputs. Recent research suggests however that leader effectiveness depends on the non-threatening frame of reference an individual leader uses. Leaders who can take on an active role in motivating the team such as communicating a rationale for change and encouraging input from others mitigates the silencing effects of power discrepancies (Edmondson, 2003: 1444). Similarly, "creating psychological safety by reducing power-based barriers to speaking up" (2003: 1444), attests to a functional leader's capacity to create a non-threatening team environment. Other functional attributes are important as well. Functional leaders help to motivate and energize team members to work hard on behalf

of the team (Zarrao & Klimsoki, 2002), and the emergence of a collective belief that the team can complete tasks successfully contributes to team cohesion. Significantly, functional leaders also "identify and integrate the contributions from team members… [by]… providing training, instruction, and opportunities for team members to learn" (2002: 6).

The strengths of the facilitative approach is similar to a shared model of leadership where leadership is a construct that develops over the life of the team and varies as a function of team inputs, processes, and outcomes (Day, Gronn, & Salas, 2004: 861). Here the approach challenges the input-process-output of previous team models (Steiner, 1972; McGrath, 1984), which collapse leader activities into discrete events. The key strength in this approach is that just as "team performance may be an output at one period of time, it is an input and part of the process leading to performance in a subsequent time" (Day et al., 2004: 861). Team processes potentially have a significant influence on team leadership when the cognitive complexity of individual team members is highly advanced and the interpretive ability of the team is evident (Crossan, Lane, & Hildebrand, 1993). Team processes influence the boundary-scanning and sense-making activities of the leader just as much as an individual leader influences the team. Accordingly, subordinate experience and professional orientation may substitute for functional leadership (Zaccaro et al., 2001), and group cohesion may even substitute for both.

Research by Hirst et al. (2004) found that an "individual's learning positively predicts group level processes and performance…[and]….new leaders were learning more than experienced leaders" (2004: 321). These findings are significant within the context of the current paper since what is embodied and learned by team members or individuals does not occur in 'one giant leap', rather, leadership learning is correlated with a facilitative approach as time progresses in an iterative fashion. The discussion then perhaps answers the question of how leadership learning facilitates the different leader approaches. The question of how learning underpins and embodies new team processes possibly needs more discussion.

Dynamic learning routines (Table 1) are enacted through shared leadership and leadership learning. Underpinning this process are the learning routines themselves – team member capabilities are embodied by the new learning routines. Higher-level learning routines reflect the capacity of individuals, groups, and organisations to challenge, question, and repudiate decision-making assumptions that drive existing decisions (Murray & Chapman, 2003), that allow the collective experiences to increase in a positive sense.

Increasing the level of intuition will be important. Managers recognise intuitively the importance and value of emerging insights from a personal stream of experience (Miller, 1996), enabling the "explaining through words and/or actions, of an insight or idea to one's self and to others" (Crossan et al., 1999: 525). These routines come partly from the embedded process described earlier and partly from the new practices that have been fostered, encouraged, and developed through various leadership activities.

Group Domains

This section recognises that even well designed teams may not have the necessary talent to achieve excellent performance (Hackman & Wageman, 2005). Teams may possess shared values and appear to be cohesive yet still may not be challenged in their work settings or in the nature of performing a task. For this section, *group domains* refer to self-managed multi-disciplinary action teams that possess, among other things: an outward focus, novel decision-making, high interpretive skills, and high team motivation to achieve outputs while constantly improving team processes.

Following Hackman and Walton, team effectiveness was concerned with standards of quantity and quality in output, member capability particularly the ability to work together, and the personal growth and well-being of the team (Hackman & Walton, 1986). Quite clearly however, poorly designed teams (systemic factors), suggest that teams frequently fail to meet customer needs, they decrease their efficiency over time, and often consist of members who are alienated or dissatisfied with their work (Wageman, 1997: 52). Where do the systemic problems lie? The answers lie in several parts. Some lie in the structure of a traditional team, while others in poorly managed contextual influences. Traditional teams suspend opinions and actively debate issues through their own internal devices before proceeding to the next step (Gersick, 1988). It is common in such teams to see asymmetric interests develop where particular team positions disenfranchise other member interests. Similarly, in the absence of a team learning process, the degree to which "different members have distinct, unshared information about a particular situation" (Edmondson et al., 2003: 303), may mean that decision alternatives are closed quickly, team member views are self-censored, and persuasion and disagreements hold sway over more substantive issues. In a study of 43 self-managing teams in the Xerox service organization, Wageman found that more effective teams had a clear and engaging direction, team rewards were distributed equally, and the team (not individual leaders), had more authority to manage the work (Wageman, 1997: 56).

Many organisational learning techniques can be found across and within efficient teams. Similar to Hackman and Wageman (2005), the first thing we notice is that organisational education systems (if they exist) can supplement the internal resources of a team if team members are not already knowledgeable and skilled. Similarly, norms and informal rules embedded and embodied in team members from higher level learning practices promote strategic thinking. Since self-managed teams require an outward focus, they work at novel ways to solve problems and constantly scan the environment reflecting superior interpretive skills. Wageman (1997) suggests that efficient teams express the ability to 1) experiment with new ways, 2) seek best practices, 3) take action to solve problems without direction, and 4) discuss differences in what each member has to contribute (1997: 57). The four job design factors are consistent with higher level learning routines (Table 1). In borrowing from the organisational change literature, process management skills in self-managed teams will be evident in team development and group problem solving techniques. Paradigm stretching for instance encourages team participants to diversify their thinking so that new connections can be made (McFadzean & O'Loughlin, 2000). Similarly, paradigm breaking is a process technique that encourages team members to search for obscure patterns and relationships so that the problem perspective can be changed. Particular aspects of learning strategies focus not only on interrelationships and systemic causes (Senge, 1990), but also help solve a team's propensity to search for symptomatic solutions rather than underlying causes.

Enabling Domains

Enabling domains refer to high-involvement group activities that help to mobilise high levels of participation in developing behavioural routines and improving group processes. What is of interest here is the actual techniques organisations use to implement and empower team activities. Two broad forms of enabling are discussed below: facilitation and exploration.

Facilitation domains

Consistent with the group domain, team routines need to be practiced and developed over time through high involvement activities. Group effectiveness and improved performance does not come from breakthrough or radical change (Greenwood & Hinings, 1996), but the consistent development and improvement of the routines over time (Bessant & Caffyn, 1996). Studies of lean manufacturing suggest that high levels of involvement make a difference (Monden, 1983). Learning routines cannot simply be copied from one context to the other but need to be practiced over a sustained period (Bessant & Caffyn,

1996; Eisenhardt and Martin, 2000). What is important here however is not just the existence of the enabling activity or device. Rather, it is the capacity of the organisation to create the right learning environment where the enabling device acts as a propellant for renewed and improved team activity.

Firstly, facilitation domains are consistent in supporting the work of different types of teams in solving mostly complex problems and in developing decision solutions. Different team types embody the level of integration required but will vary in form and substance. For instance, virtual teams complete tasks without the benefits of face-to-face contact; network groups and country teams address major business functions and work on specific projects across the globe. Similarly, cross-functional teams address interdepartmental business issues and functional teams are a common form of achieving integration (e.g. safety teams). The quality of facilitation depends on the complexity of individual schemas (advanced cognitive and intuitive capacity), actually required and in our view, the capacity of the organisation to match individual learning styles to specific team requirements. In a study of 40 teams in the aircraft industry, Beckett & Murray (2000) found that a structured and analytical learning style could be matched to various structured auditing procedures and checklists that could then be used to improve team decision-making skills. This is in contrast to other learning contexts in which a structured learning style might be unsuitable. Other forms of facilitation enabling high levels of participation will be different kinds of conferences and intra-net services. The point is that facilitation enablers allow learners to be confronted with different kinds of participation. Too often, learners lack the opportunity to explore, discover, and experiment with different kinds of stimuli (Freire, 1970a), and lack the language necessary to express themselves.

Exploration Domains

The second broad type we identified is exploration domains. Exploration enablers are related to finding new knowledge and challenging existing knowledge conventions inside the organisation. New innovation for instance is a major task of facilitation teams such as new venture or product development teams. The task here for teams is to enhance their knowledge based systems by forging links with industry (joint venture research, industry learning networks) so as to maximise the learning gained by improving a firms capabilities in particular areas. Exploration enablers can be used to expand existing explicit and tacit knowledge (Nonaka, 1991) since knowledge is generated through complex, dynamic interactions between actors, organizations and social environments (Kakihara and Sorenson, 2001). Communities of practice

(Wenger & Snyder, 2000), for instance bridge the divide between strictly facilitation enablers on the one hand and exploration on the other by allowing people from different parts of the organization and externally to come together to share ideas. Collectively, the organizational learning components of the enabling domain underpin the quality of team interaction. The learning is not only embodied in the high-involvement routines. It concerns the double-loop learning component allowing teams to challenge the technical core of embedded learning, the type of enabling process to be done, and the collection and dissemination of knowledge itself. We suggest that the enabling device should match the type of knowledge to be gained.
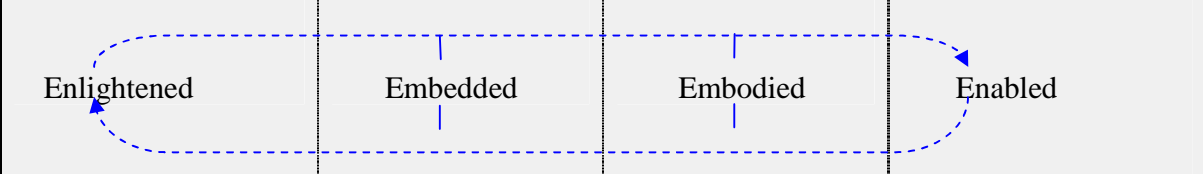
DISCUSSIONS AND CONCLUSIONS

This paper has explored four broad learning domains. Table 2 encapsulates the discussions and presents a conceptual framework of the four domains consistent with the purpose of the paper. Our discussions focused on the enlightened domain and how team members need to interact at a high level with team members displaying well developed interpersonal and interaction skills. This domain was highlighted by what might occur in the absence of shared understanding. The quality of free-flowing talk for instance will be encumbered when team activities are subject to groupthink, affective conflict, and a lack of integration or shared understanding. We discussed how organisational learning routines underpin the enlightened domain by improving interpretive skills and by testing and challenging the assumptions that drive theories-in-use. High-involvement routines related to cognitive conflict also can be used to help the group concentrate on substantive issues so that team members can visualise team problems in a different light. A more enlightened domain was also achieved by an increase in the quality of interaction routines and managements resolve to create proactive inquiry through different forums such as meetings, socialisation activities, and conferences.

We discussed how organisations develop capabilities through an attitudinal domain concerning socially complex resources mastered over many years in the technical core. What was important in the embedded domain was management's attitude in developing new capabilities to challenge and replaced the old ones as time progressed. What is unique about the technical core is a predominance of lower-level learning abilities that embody team processes. Yet, increased complexity in team tasks (e.g. mastering technological innovation, new product development) demands new abilities. While in most firms, team routines can be expected to cascade downwards as complexity increases (Bessant and Caffyn, 1996;

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Murray, 2002; Fiol and Lyles, 1985), complex team tasks and processes require new team behaviours embodied in leadership learning and high-involvement routines. We discussed how teams need to be exposed to the higher-level routines outlined in Table 1 so that behaviors embodied in the leadership and group domains will more likely lead to increased group effectiveness.

TABLE 2: A Framework of Learning Domains in Team Effectiveness

Enlightened	Embedded	Embodied	Enabled
Interpersonal domains One-on-one interaction Level of communicating Listening ability Level of consultation Negotiating capacity Capacity to share **Interactive domains** Meetings Teleconferencing Informal get-togethers Frequency of interaction Level of questioning Proactive inquiry Discussions Interactive charts Giving opinions Grapevine interaction Socialization activities Laughing & joking	**Attitudinal domains** Human capital stock Technical versus adaptable orientation Values orientation Beliefs about personal development Core competence orientation Change orientation Strategic renewal	**Leader domains** Training & educating Coaching Bonding Mentoring Resource equipping Leadership learning Motivating Visioning Inspiring Shared leadership Functional orientation Leader character **Group domains** Degree of delegation & empowerment Boundary control Task complexity Membership diversity Level of cooperation Degree of ownership Willingness to share Level of commitment Level of authority & responsibility Time-based context Group process techniques	**Facilitation domains** Virtual teams Country teams Project Groups Cross functional groups Functional groups Styles of learning (e.g. audit teams) New product teams **Exploration domains** Type of innovation Consultancies Joint venture research Industry learning networks Workshops Conferences Intra-net and/or internet Communities of Practice

Perhaps one of the most tangible benefits of higher-level learning is knowledge management. While it may be easier for firms to learn from failure, they should have a mechanism to retain what was done correctly as well as what was not (Levitt and March, 1988: 319). Knowledge management systems help firms to unlearn, and as necessary, treat their memories as enemies (Hedberg, 1981; March and Olsen, 1976). Developing new knowledge such as new innovations is not simply processing objective information. Rather, it is about tapping the tacit and often highly subjective insights, intuitions, and hunches of individual employees and making these available for testing (Nonaka, 1991: 98-99). We suggested that the two enabling domains of facilitation and exploration underpin enlightened, embedded, and embodied learning by providing different types of integrative mechanisms. The learning domains presented in this paper are needed to facilitate this process, and a learning culture should underpin them.

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