Introduction

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The success of a volume like this can be measured by its power to compel us to browse through its pages (thank goodness for paper!), to take excursions into its texts (praised be prose!), to create or extend relationships with its authors (thank G-d for friends!), to sense the shape of the landscape by hovering over its table of contents (some structure is good!), and, finally, to settle back, lengthen our focal point, and take the time to reflect on critical questions (time, oh precious time!). How did we get here? What, if anything, is being said here that could not have been said before? And why are we saying it now?

The contributors to this volume and the diverse participants at a Darden Graduate School of Business Administration colloquium in spring 2002, which set this book in motion, pose these questions even more pointedly: How have we – the practitioners and stakeholders in the art of creating learning cultures – learned what we know? What do we need to learn next? Beyond articulating these essential questions, the contributors to this volume offer some answers.

It takes twenty years

It was in 1990, with Peter Senge's *The Fifth Discipline: The Art and Practice of the Learning Organization*, that learning was first catapulted from the peripheral corporate domains of training and development departments to a place much closer to the center of business discourse. E-mail was still a creature of early adopters and large institutions, and PowerPoint (or its aptly named predecessor, Persuasion) was just coming onto desktops and into conference rooms across the world.

We are indebted to Teddy Zmrhal for his help on this chapter and more generally to Paul Duguid for his continual contributions to our understanding of social practice.

Because each technology purported to change the way people communicate rather than what they think, neither was considered particularly relevant to learning. In contrast, the five disciplines – personal mastery, mental models, shared vision, team learning, and systems thinking – appeared as tools to change the organization precisely by changing its thinking (and its thinking about thinking) and were easily recognized as valuable management tools for a knowledge-based, competitive era.

For those paying attention, the management conversation about learning had begun almost two decades earlier, when Chris Argyris and Donald Schön published *Theory in Practice*. They challenged organizations to recognize the limitations of "single-loop learning," familiar from the quality movement, which fosters the ability to detect and correct errors within the frame of current assumptions and policies, and to aspire instead to "double-loop learning," the ability to detect, determine, and perhaps even modify the organization's underlying norms, policies, and objectives.[1] The first type of learning implies *assimilation*, the domain of experience curves, which is relatively straightforward – both for people and for organizations. The second, considerably harder, implies *accommodation* – altering one's frame of reference or basic assumptions about the world. Double-loop learning involves changing the kinds of stories we construct to make sense of the world and, using the terms of gestalt therapy, requires a fresh, unbiased hearing of the "other." It is the ultimate goal of any learning culture. In corporations, double-loop learning is also the domain of strategic shifts. When Senge's five disciplines showed up on management's radar screens, they provided instant utility to the many organizations then engaged in strategic efforts to reframe existing markets and envision new business models. Yet Argyris's Model II learning organizations remain rare to this day.

Meanwhile, in the mid 1980s, from a more personal perspective, a community of researchers at and around Xerox PARC (Palo Alto Research Center) resolved to crack the learning problem by coming at it with multifocal conceptual lenses. One result was the founding in 1987 of the independent Institute for Research on Learning (IRL), a multidisciplinary community that undertook research to explore

[1] See C. Argyris and D. Schön, *Theory in Practice: Increasing Professional Effectiveness* (San Francisco: Jossey-Bass, 1974). For additional information on Argyris, see http://www.infed.org/thinkers/argyris.htm.

"everyday learning." Merging the practices of diverse fields – cognitive science, computer science, social linguistics, educational technology, and ethnography – proved painful but instructive. By the early 1990s, IRL began to inject a new, more social constructivist voice into the business conversations cascading from the learning organization work.[2] Amplified on one flank by workplace practitioners who worked with companies to enact new products, markets, and business models and on its other flank by educational practitioners who were elaborating new means to teach secondary school physics and mathematics, IRL put forth two fundamental understandings. First, that learning is fundamentally social and, second, that learning *about* is quite different from learning *to be*, which is a process of enculturation.

Building on observations in workplace, school, and craft settings, IRL researchers noted that successful learning happens with and through other people and that what we choose to learn depends on who we are, who we want to become, what we care about, and which communities we wish to join. In this frame, learning is also a matter of changing identity, not just acquiring knowledge. Learning of this nature occurs primarily through the process of gaining membership in a community of practice and is critically enabled by what Jean Lave and Etienne Wenger described as "legitimate peripheral participation" – the essence of classical apprenticeship. By this measure, a marketing manager has learned enough about wireless networking to drive his or her company's participation in that market when and only when he or she can understand the goings-on at an insider's wireless conference or have a mutually satisfying conversation with a committed member of the wireless community. Practice is not merely the measure of learning but the medium of it. In communities that arise less through organizational fiat (the authorized infrastructure of work) and more through pursuit of common work by the ecology of crafts, disciplines, and personalities needed to accomplish that work (the emergent infrastructure of work) practice is invented – and learning captured – each step of the way.[3] Members in such communities are co-constructing knowledge, which is literally embodied in their practice. Practice is not the stuff in

[2] For a complete list of IRL's Seven Principles of Learning, see http://www.linezine.com/6.2/articles/phuwnes.htm and http://www.newhorizons.org/trans/abbott.htm.

[3] Our colleague at IRL, Susan Stucky, first put forth the idea of "authorized" and "emergent" as parallel types of organization.

libraries but *knowing in action*. Words, books, simulations, tool-kits, and the like are artifacts deliberately crafted to transfer knowledge by evoking practice in the participant; they are not the knowledge itself.

In 1995, twenty years after Argyris and Schön, five years after *The Fifth Discipline*, and a year after the extended IRL community's first corporate client retreat, a pair of former *Harvard Business Review* editors launched *Fast Company*, a "handbook of the business revolution" targeted at readers "old enough to make a difference and young enough to be different." Readers were enjoined to "leap into the loop" by using e-mail to interact with the editors – a novel thought at the time – and to watch for a website yet to be constructed. By this time, PowerPoint was fully established as the first-language tool of business. Conference rooms were filled with people engaged in shoulder-to-shoulder knowledge-sharing, literally returning to the ancients' practice of reading and writing knowledge on the walls, although this time with beams of light instead of charcoal, chalk, or pigment.

Learning was so central to the new rules of business that an article by the two of us entitled "The People Are the Company" anchored the core Big Idea section of *Fast Company*'s first issue. "Work Is Personal . . . Computing Is Social . . . Knowledge Is Power" blared the cover art. "Learning is about work, work is about learning, and both are social," we wrote. In one of the most-cited articles in the publication's history, we asserted that the community of practice is the "critical building block of a knowledge-based company," the place where peers in the execution of real work create and carry the competences of the corporation. Veterans of numerous internal change initiatives, we quietly faced down the tanks of prevailing workplace ideology by proclaiming, "Processes don't do work, people do." We pointed out that "the real genius of organizations is the informal, impromptu, often inspired ways that real people solve real problems in ways that formal processes can't anticipate. When you're competing on knowledge, the name of the game is improvisation, not rote standardization." We also took on the sister shibboleths behind the traditional corporate approach to learning and knowledge; namely, that learning means individual mastery and that everything knowable can be made explicit. We did so in the way we knew would work: by telling stories. We told stories about Xerox field reps using radios and an "electronic knowledge refinery" called Eureka, and about how National Semiconductor's PLL ("phase locked loop," a specialized kind of circuit) designers coalesced almost

instantly into a powerful, strategic, and ultimately much emulated presence in the company simply by being given the language, the license, and, eventually, the funding to organize. On one hand, these stories about the tacit and collective dimensions of learning and work eased quite naturally into readers' experiences. On the other hand, partly by design, the words *emerge* and *social* seemed to jump off the pages into people's faces – simple and familiar yet mysterious and somehow uncomfortable.

A decade distilled

Internet-time was upon us. The knowledge economy roared in, reshaping mainstream and management culture. It inflated. Burst. Rolled on. Contributors to this volume were deeply engaged in these formative years of the knowledge culture, as individuals and as professionals. As a result, things are being said within these pages that could not have been said before. Here we can begin to comprehend the fruits of the first decade of the knowledge economy.

In light of our early work at Xerox and that nascent whiff of learning culture themes in our *Fast Company* article, Marcia Conner and Jim Clawson, the editors of this collection, asked us to introduce the burgeoning learning movement and to assist readers on their journey through these essays. Here is what we glean from this volume and what we would urge readers to consider.

(1) Whether as individuals, as corporate entities, or as smaller productive groups (teams, communities, groups, business units), we all struggled to adapt to the economic, cognitive, and social implications of speed and globalization. We came to understand on a very practical level that learning is the strategic competence for an entity experiencing change. We quickly recognized that becoming a learning organization entails deliberate culture change. With that, we began to abandon our old instincts to reify and broadcast and to develop skills that help us cultivate new business practice. We struggled to honor local differences. And we learned to celebrate the unique power of narrative in conveying knowledge across otherwise formidable epistemic boundaries.

(2) Whether we consider ourselves skeptics or optimists, we are aware that a different model of the human at work is emerging. People need

to be trusted; work and therefore decision-making must be distributed. Relationships among workers – as learners – are key. People need to be given tools, as well as the social and informational spaces to interact as voluntary members of communities and as self-governing citizens. The outcome of investments in learning must be measured in new ways – in actual performance in real work. Thus, to the optimist's eye, the globally teamed workplace is beginning to seem like the norm; authority is naturally reaching down the ladder and closer to the customer, where the real knowledge is anyway. Meanwhile, to the skeptical eye, all this collaboration is a hair's breadth from enforced coordination; members of communities are being manipulated or, worse, exploited in their pursuit of personal and professional goals. But the signs of change are unmistakable.

(3) Whether our early professional identities are rooted in the sciences or the arts and humanities, we are busily incorporating new metaphors and intuitions drawn from the theory and practice of adaptive systems, ecologies, and other biological models. We are elaborating new approaches to organizational design and to civic activity. We are recrafting the standard tools of the learning trade – such as technology, classrooms, and coaching – and integrating the lessons of first-generation online communities. We are more articulate and deliberate about the social systems underlying learning. We are slowly but surely deploying systems that enable and honor learning – *in situ*.

Reflecting upon the learning trajectory of the last decade, captured so well in this volume, the days when *learning* usually meant *training*, *knowledge* meant *information*, and "content was king" seem to be fading. Community of practice is now a common term in business language and a sanctioned, funded approach to global knowledge-sharing and postmerger competence integration in leading companies. Learning is clearly no longer synonymous with individual mastery. It is now tacitly expressed in practice that not everything knowable can or should be made explicit, that content must be delivered in context to be effective. High-performance workscapes are built less through training and more through creating opportunities for collaboration and continual renewal, usually through teams, communities, networks, or forums. The words *social* and *emergent* no longer crimp business conversations about learning cultures but spark them.

Creating learning cultures: what's next?

So, what do practitioners and stakeholders in the art and practice of creating learning cultures need to learn next? Not surprisingly, our response begins with a critique of current practice – individual and collective. For all we have learned and for all that learning cultures have ostensibly changed, there is surely more learning and changing ahead of us.

• **We, as corporate practitioners, are still not taking advantage of authentic practice, and until we do so, we cannot master the dual art of knowledge-sharing and innovation.** The key to spreading actionable knowledge is understanding how shared practice provides the rails on which knowledge travels. Shared practice (which usually reflects shared roots) carries with it a shared worldview, which, in turn, enables people to trust the meaning of one another's words and actions. Without shared practice, knowledge tends to resist transfer, or "stick." The documents, tools, and instructions intended to convey actionable knowledge across organizations are quietly ignored, judged inapplicable, misapplied, or otherwise fail because, without shared practice, their recipients can neither decode their true meaning nor recode that meaning into appropriate local practice. Conversely, communities of practice are powerful learning venues and knowledge creation loci precisely because knowledge flows (or "leaks") so easily within their boundaries. Similarly, the looser (but sometimes equally durable) networks of practice to which many professionals now belong provide somewhat thinner rails on which knowledge can travel quite well between practitioners in distant parts of an organization or in different companies. As a rule, knowledge leaks in the direction of shared practice and sticks where practice is not shared.[4] Very often, sharing knowledge across an enterprise requires leaving the rails of a shared practice and jumping between two different practices (marketing/sales and research, or materials science and production engineering, for example) or organizational cultures. In these cases, we must literally find ways to bridge different practices. Bridging practices is never easy, even (or especially!) when accompanied by process-imposing tools like

[4] J. S. Brown and P. Duguid, "Knowledge and Organization: A Social-Practice Perspective," *Organization Science*, July 2000, p. 14.

Lotus Notes or enterprise systems like those from SAP, PeopleSoft, or Oracle. Bridging requires nuanced knowledge brokers, people who can span practices and speak multiple languages at the same time. It requires intentional boundary objects – documents, prototypes, phase gates of a process, and the like, around which a negotiation-in-practice can be afforded. It is in reflection upon this negotiation that the second loop of learning occurs – the ability to accommodate, to change underlying models, methods, and our own view of others. Yet few strategies or technologies honor the role of practice – of action on the ground and meaning negotiated in the crucible of work, among people. And too many focus, instead, on the warm friendly notion of communities.

The common corporate goal of sharing best practices is related to but distinct from the challenge of having actionable knowledge jump across distinct communities of practice. In this case, it is crucial to realize that every best practice emerged in a highly situated way; it was grown and honed in a particular context. In order for it to travel, it must first be disassembled from that context and then re-embedded in a new context (that is, in a different part of an organization or in a different organization entirely). The process of re-embedding is highly problematic since the best practice must be viewed as a seed that is allowed to germinate in its new context and sprout in a form that honors the nuances of this new context. It takes time and a willingness to let the people influenced by the new best practice do their part to shape it and grow it, preserving its essence but also modifying it to fit its new circumstances.

Practice does not come in discrete pieces like Lego toys but in clumps and clusters of yarn like a knitter's remnant box after a three-year-old child has played in it. To move a strand from one community to another, from one type of product to another, from one country to another means to disentangle, snip, and re-entangle – without consuming the yarn.

• **We have not yet faced up to the imminent and gnarly challenge of "learning to unlearn."** Reframing is clearly the order of the early twenty-first century. But we will continue to cultivate learning cultures that assimilate rather than accommodate unless we take the lead in inventing, adopting, and embedding a repertoire of new practices (techniques, technologies, processes, experiences) aimed at learning to see

differently. Let us start with a zero-digital-technology example of such a practice that builds directly on knowledge-sharing and innovation. Say you want to transfer a new, hard-earned strategic shift from business unit A, where it was hammered out over eighteen months, to business unit B, which faces a similar set of strategic issues and, furthermore, sits directly up- or downstream from A. Time is of the essence. There is very little shared practice between A and B, although there is significant hand-off and therefore some history of communication. Bridging A and B, we know, will take nuanced brokering, mediating boundary objects, and time – time to negotiate meaning in practice, and time to disembed and re-embed key innovations.

The technique is called *2 x 2 x 2 x 2 x 2*: take two people from group A and two from group B, and bring them together for two meetings, each two hours long, two days apart. Ideally, there is a pre-existing positive professional relationship between one of the As and one of the Bs. Perhaps they are both current or former members of a particular engineering network of practice; perhaps they both served on a corporate change-initiative task force which was related, even tangentially, to the strategic issues on the table; perhaps they have functioned as customer and supplier to one another within the organization's value chain. Equally important is the relationship between the two members of each unit. Within their dyad, they must be able to reflect on and articulate elements of the practice they share; they must be able to share stories, hash out details, follow each other's leads, and refine each other's thoughts. What happens around the table the first day (and it really should be a physical table if possible) is intense. It takes tacit teaming by each side to establish and maintain the conversation – one talking while the other watches body language or searches for the next example. During the two hours, A1 and A2 help B1 and B2 enter into the new way of thinking and doing by describing, showing illustrative artifacts, answering questions, identifying and, if possible, addressing objections, and working with B1 and B2 to map the new way into at least two specific situations or practices under way in B. Each of these situations is explored in depth, often primarily in dialog between the two Bs with, by now, only intermittent interjections by an A. These situations then become the subject of continued exploration and experimentation in practice by the two Bs over the next two days. Success rests on the fact that with two representatives, each

side can bring its practice into the room. The second meeting brings all four people back to reflect and to continue to negotiate meaning. Reframing occurs continuously. Repeat the last two steps as necessary. Unlearning alternates with learning throughout as the three sets of dyads (A1A2, B1B2; A1B1, A2B2; A1B2, A2B1) argue, test, witness, internalize, challenge, and change.

Almost every important new point of view or piece of technology, we argue, imposes a burden of unlearning on would-be adopters, often swamping or preventing the better-known learning demands it makes. No more dramatic an example exists today than "naturalized" Internet citizens literally looking at Internet-native genres like MMPOG (massive multiplayer online games). A fundamental act of reframing – learning to swap the periphery for the center – is necessary, we've learned, before one can begin to see the game. This is not an easy shift, unless you have a good guide plus an inclination to see.

In John's case, he realized early on how difficult it was to understand the culture being created by kids who grew up digital. Fortuitously, he met young author J.C. Herz,[5] who offered to be John's "reverse mentor." Over a year's time, J.C. structured a set of experiences that would give John a way in to the practice of this emerging digital culture, help him unlearn certain biases, and slowly construct a new set of conceptual lenses through which he could see, hear, and make sense of the massively multiplayer game world. For John, being reverse mentored also presented an opportunity to hone his ability to listen with humility and through engagement. What unfolded over the year was a realization that until then, John, like most adult game novices, had focused on the actual playing of the game – at the center of the game screen, if you will – while remaining moderately oblivious to the rich social activities transpiring around the edge of the game. There, at the edge, a rich constructivist ecology was evolving – the sharing of tricks and heuristics, the bartering of magical swords, avatars, and other objects of play, the general swapping of stories, and more. Suddenly, he realized that what he thought of as the center was in fact the periphery and that what he initially considered to be periphery (or context) was in fact the center (or content) of the game. The real game, he saw,

[5] J. C. Herz, *Joystick Nation* (Boston: Little, Brown and Co., 1997) and *Surfing on the Internet* (Boston: Little, Brown and Co., 1995).