Collaborative Learning: A Core Capability for Organizations in the New Economy

Dori Digenti

T his paper concerns the practice of collaborative learning—a practice that comprises a vital organizational capability for the twenty-first century. By *collaborative learning* we mean the interaction of two or more people engaged in value-creating activities based on improving, practicing, and transferring learning skills both within the group and to the organization or group of organizations to which a group belongs.

The intended audience for this paper includes managers and change agents working with organizations engaged in global markets and businesses. Today's accelerated business environment forces managers to engage in on-line learning (i.e., collaborative learning is a business practice with development that is outpacing the creation of supporting theories). Collaborative learning employs experimentation, methods, and approaches that emerge from the present and evolve as they are practiced.

Why should change agents and their client organizations be concerned with collaborative learning as a practice, when alliances, partnerships, and mergers and acquisitions are well-known and practiced collaborative forms? First, because collaborative learning competence enables organizations to deal with both the pace and direction of change as they come; second, because collaborative learning builds boundary-spanning skills; and third, because collaborative learning needs a practice field, a group in which learning experiments focused on building and enhancing interdependence through personal learning networks can take place. The collaborative learning cycle described next deals with these areas.

Dori Digenti

Collaborative Learning as a Core Competency

In their groundbreaking *Harvard Business Review* article, Prahalad and Hamel (1990) described the core competence of an organization as the collective learning in the organization, especially the capacity to coordinate diverse production skills and integrate streams of technologies. The steps they described were to identify the core competencies, defined as those that (1) provide potential access to a wide variety of markets, (2) contribute to the customer benefits of the product, and (3) are difficult for competitors to imitate.

Many firms have made this process their guiding strategic imperative. One dramatic example of a product-based core competency strategy is the recent history of Texas Instruments (TI). After the death of CEO Junkins in 1996, TI embarked on a rapid divestment of its non–core product lines. In 1998, this divestiture culminated in the sale of its DRAM business to Micron, the final move in TI's efforts to define its core competence as digital signal–processing technologies. TI has made bold and concerted moves to define its core competence and redesign the firm in alignment with that strategy.

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The final stage of the Prahalad and Hamel process for defining core competence—that companies must reorganize to learn from alliances and must focus on internal development—is one that many leading firms have not fully considered in forming their core competence strategy. Yet, learning from alliances and internal development is critical for viability in the technological changes that organizations face. How does one define a strategy that is based on learning from alliances, both internal and external, and focus on internal development, without losing touch with market forces? This is where collaborative learning competence becomes a strategic advantage for companies that have shifted to what has been termed *the new economy*.

Impacts of Technology and the New Economy on Organizations

We have reached the limits of the continuous improvement processes that have helped U.S. organizations to enhance productivity, quality, and worker satisfaction over the last roughly 20 years. Continuous improvement assumed that excellent products and services, supported by rational organizational structures and procedures, would yield ongoing profitability to sustain the organization. These beliefs were tied to an economy wherein forces were linear, planned, and predictable.

Wired magazine's editor Kevin Kelly (1997) has proposed a radical view of the new economy—one in which companies will succeed only through counter-intuitive strategies that support and are supported by collaborative learning. In Kelly's "New Rules of the New Economy," the following principles support a networked world:

- Shared knowledge and product capability increase profits for all.
- Beneath-the-radar trends explode as the focus of geometrical profits.
- Laws of product lifecycle are skewed.
- Prices for the best technology constantly decrease.
- Individual companies rise and fall, but the network remains intact.
- The best products are given away free.
- Continuous disequilibrium must be sought rather than cured.

Building on Kelly's premises, let's focus on technological change and the creation of the new economy. In the early 1990s, the World Wide Web and the Internet were not key business tools. Now, at the end of the 1990s, it is difficult to think of a single area of business that does not feel the impact daily of the Internet. To put a figure on the pace of technological change on the Internet: Web-based commerce has grown from close to $0 in 1993 to an estimated $22 billion in 1998. Marketing, sales, financial planning, project management, global operations—all have been changed by Internet technology.

Just as the Web was essentially unknown a few years ago, so the next technological direction is unknown. In Massachusett Institute of Technology's Media Lab haptic computing is transforming the sense of touch to digital form. Just as we have become accustomed to receiving sound and images in digital form on the desktop, in the near future we will be able to transmit sensation and texture from one desktop to another. What impact will this have on three-dimensional modeling, medical practice, materials science, and communication? Technology is once again far ahead of our ability to apply it meaningfully to the business at hand.

It is not only possible but likely that within a few years, average technology workers will spend most of their day in virtual environments, where haptics and other digitized sensory inputs take them out of normal reality for hours at a time. Already in Japan, commercial applications of virtual reality (VR) are springing up in virtual ski and golf practice environments, VR interior design, and laboratories (Kahaner, 1994). Further commercialization and applications will follow.

The impact of this ever-changing technological landscape on corporate strategy is profound. Even the most bullet-proof product strategies and organizational structures may become obsolete in a short time. Most organizations have a hard time shifting to this new reality. Much of the work of managers and change agents going forward will be to help firms to shift their energies from structure and planning to creation of the types of flexible learning structures that will support corporate survival in the twenty-first century.

This new reality requires a different mindset. Managers need to question every assumption; invest in intangible assets of knowledge, people, and networks; and be ready to diversify and reconfigure rapidly. To create this new mindset, managers will need to operate with certain givens:

- Acknowledge that they do not know where the next set of changes will take them
- Understand that today's core technological or product competencies may be useless in a few years
- Be convinced that the differentiating factor between success and failure in the face of discontinuous change will be the ability to learn and collaborate (Nadler et al., 1995).

Collaborative Learning Prerequisites

For change agents to assist firms in embedding collaborative learning as a core competence, three prerequisites must be in place: collaborative capability assessment, collaborative organizational climate, and collaborative spaces.

Collaborative Capability Assessment

To build capability, change agents must understand collaborative learning as it currently exists in the organization. Many firms are involved in multiple internal and external collaborations before they consider the possibilities of assessing capability and building competency in the organization around those collaborations. Though most companies engage in cultural compatibility analyses or at least consider reasonable fit before they engage in partnerships, few have a clear sense of how collaboration works in their organization—of where the pockets of expertise lie or what models of collaborative activities are being used internally.

Collaborative capability assessment allows an analysis of the organization's attitude toward collaboration and the existing systems, support, and persons involved in collaboration in the firm. The assessment is a tool for uncovering tacit knowledge about collaboration and for highlighting where in the firm there is lack of alignment around collaborative goals. The collaborative capability assessment process involves certain factors:

- Organizational culture analysis (Schein, 1992)
- Interviews with those involved in collaboration across levels, functions, and divisions in the organization
- Collection and study of internal publications, memos, and executive speeches that focus on collaboration
- Review of existing collaborative relationships
- Collection and study of training and development efforts that support collaboration
- Data about current rewards or recognition programs that focus on collaboration.

After the materials, information, and interviews have been gathered, they are analyzed to determine the strengths and weaknesses of the organization's collaborative capability. This information provides the basis for building, enhancing, or transferring the collaborative learning competency. It also produces data that can be used in building stakeholder support for the collaborative learning competency.

Collaborative Organizational Climate

Once the manager or change agent understands the current state of collaborative learning in the organization, this information can be compared to guidelines concerning the creation of an organizational climate that supports collaborative learning. According to Edward Marshall (1995), a collaborative climate has four components:

1. Collaborative culture: a set of core values shaping business behavior, including respect for people; honor and integrity; ownership and alignment; consensus; trust-based relationships; full responsibility and accountability; and recognition and growth

2. Collaborative team processes: team formation process, team management process, self-sufficiency and renewal process, and team closing process
3. Collaborative structure: realigned human resources support and information systems
4. Collaborative leadership: ability to recognize many leaders, not just one; leadership that fulfills a number of functions—facilitator, coach, healer, member, manager, change agent

The change agent compares the collaborative capability assessment findings to these climate indicators and determines interventions that will address the gaps between current conditions and the new supportive climate.

British Petroleum (BP) is one example of an organizational climate that supports collaborative learning. The company found that it was spending extensive corporate resources to send technical troubleshooters to far-flung operations to solve problems but that technical knowledge transfer during these sessions was inadequate. To address this situation, BP drew on new technologies in combination with human interaction skills training to resolve many technical issues from a distance; it also created a catalog of technical resources accessible worldwide. The company invested $12 million in a pilot project called the *virtual teamworking* (VT) program, which included desktop videoconferencing; collaborative software (multimedia E-mail, shared applications, scanners, and electronic whiteboards); and behavioral coaching. Virtual teamworking coaches were sent out to implement the installation of the equipment, but 80% of the program's time was spent on aligning the VT approach with the unit's business goals, teaching facilitation skills, and mentoring the group once the system was installed to maximize the benefits of the investment. BP estimates that its VT approach saved it $30 million in the first year in which it was implemented, through reduced travel expenses, quicker problem resolution, and less downtime on critical equipment. The learning transfer that has taken place as a result of this investment undoubtedly has provided further, less easily measured benefits.

Collaborative Spaces

BP's VT program illustrates a company's investment in building collaborative spaces. As the pace of business interactions picks up, companies are challenged to find new ways to deal with complexity without falling into the trap of reductionism and fragmentation (i.e., without dividing up problems and accountabilities in ways that work against seeing the entire picture). Cultural, technological, and stakeholder factors need to be dealt with in collaborative relationships in a new way—in the creation and use of collaborative space. Michael Schrage (1990) describes a collaborative space as a "shared space that is the place or the medium where people put up and play with the representations and models of their ideas." Risk-taking and experimentation are encouraged, cultural assumptions are openly acknowledged, and all parties are willing to experience some level of discomfort in working together.

Collaborative spaces involve not physical spaces but the collaborative process of creating models, of experimenting, and of improving them while engaging in ongoing discussion and exchange of ideas. The process or model creates the focus and interest for the collaborative team to build on. In this way, a collaborative space is the jumping-off point for networks and collaborative relationships. The value creation comes from the relationships, which can carry through to subsequent collaborations.

The creation of a collaborative space can be likened to a temporary learning system (Seashore & Seashore, 1998), wherein a group has been brought together around specific learning goals for a defined period . Explicit in the concept of the temporary learning system is the blending of completion of task and reflection on process, which occur in parallel. The group creates a collaborative space in which learning through process—voicing insights, shedding assumptions, and noting direction, energy, and involvement of the group—is as important as the task. The premise of the temporary learning system is that the collaborative space must allow members to "get out of the box," to combine linear and random insights, and to access the untapped energy for learning in the system, including conflict, and to use that as a springboard for new discoveries.

The collaborative space is the container in this case for exploring learning technologies and methods that can move the organization toward its desired future.

The Collaborative Learning Cycle

To build, enhance, or transfer collaborative learning competence, the following cycle is proposed as a road map. The model, as an ongoing learning practice, is presented as cyclical because each learning cycle leads to a reassessment of collaborative learning capability, at an increasingly fine-grained level of inquiry. The figure shows the phases of the collaborative learning cycle (Figure 1).

Phase One: Collaborative Capability Assessment

As mentioned, collaborative capability assessment provides data both for strengthening collaborative capability in the organization and to be shared with other learning groups for input, advice, and feedback.

Phase Two: Creation of Boundary–Spanning Skills

The skill set that supports collaborative learning has been termed *boundary-spanning skills* (Digenti, 1998a). These skills allow the members of the collaborative learning group to develop a shared vocabulary and to build skills in boundary crossing while they are engaged in collaborative learning projects. The competencies for boundary work can be seeded through workshops and group study. At the same time, the competencies that have the most relevance for a given firm will be determined over time through the practice of the boundary work itself. The boundary-spanning competencies should also form the basis for mentoring new collaborators and for mentoring across organizational boundaries. Within the collaborative learning group, a "flying-geese" pattern emerges, where members with more experience in working with learning approaches create "uplift" for members newly entering. This creates opportunities for mentoring and peer teaching. (See sidebar on page 50 for further discussion of the boundary-spanning skills and their development at the 3M Corporation.)

Phase Three: Practicing Collaborative Learning

Collaborative learning is a practice, and therefore every opportunity for collaboration that creates value should be sought out. Naturally, certain types of work do not lend themselves to collaborative activities but, even in that case, individual contributors can benefit from collaborative learning around methods and approaches. A number of collaborative learning technologies can be engaged in building capability.

Parallel Learning Groups

Parallel learning groups are created to open new channels of communication outside and parallel to the normal, hierarchical structure of each organization (Bushe & Shani, 1991; Zand, 1974). The groups cut across organizational lines horizontally and vertically, define their own boundaries and strategies, and bring new thinking and creative energy to problems that have challenged normal decision-making processes. New behaviors and organizational forms are practiced within the parallel group, with the hope of later transferring those new behaviors to the organization as a whole. Through its own processes, the group learns about boundary-spanning capabilities, collaboration, goal setting, and group development.
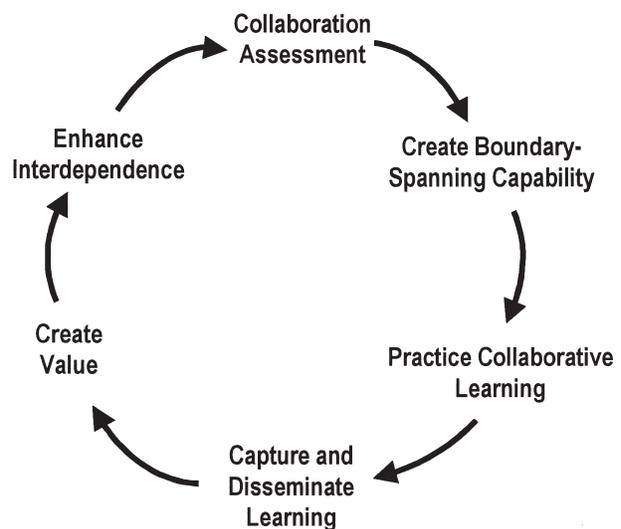

Figure 1. The collaborative learning cycle.

The parallel learning group should be composed of a diverse group of individuals, from different divisions and functions, generations, and cultural and national backgrounds within the organization. This is critical if the group wants to avoid replicating the traditional patterns and bureaucratic behaviors of the organization; in other words, if its goal is real change. By "mixing it up" through diverse membership, the parallel group ensures that unheard voices, lack of hierarchy, and broad consensus become norms of the group process. Over time, the parallel learning group becomes a source of peer teaching and mentoring on the process to the organization.

An example of the parallel learning group activity is the change agent program at Siemens Nixdorf (SNI) (McGuire & Mohammed, 1996). This program consists of the annual formation of a parallel system of 20 to 25 professionals from the company; they engage in a major change project and a 13-week change agent's course. The group's goal is to replace SNI's rigid corporate hierarchy with a more responsive and flexible organization. The program is intentionally fast-paced to force the participants to make quick decisions. Each change agent in the program has an executive sponsor and a senior manager mentor during the course of the program. Some program outcomes include institutionalization and expansion of job rotation programs, enhanced communications strategy, and the creation of "one-company" vision that superceded divisional interests.

Boundary–Spanning Skills

Managers and change agents now work in multiple boundary-spanning situations. Internally, managers must address functional, national culture, and subculture boundaries within a single project team. In addition, customers and suppliers are increasingly party to product and market decisions, so managers must be able to bring external perspectives to their own organizations and be sure that internal barriers to fulfilling customer needs are addressed. In the past, the management of functional boundaries (project managers), national cultural boundaries (international managers), and subcultures (the "people" persons of the company) were separate; now all these functions are handled by a single management. This creates the need for cross-disciplinary boundary-spanning skills.

Boundary-spanning skills combine organizational learning, intercultural, and negotiation-mediation approaches to provide managers and change agents with the tools they need to address multiple boundary situations and to create and manage the knowledge gained through those interactions. These boundary-spanning skills are double-loop learning, mediation-negotiation, systems thinking, peer learning-teaching, and intercultural relations.

3M Corporation, a world leader in innovation based on successful leveraging of internal and external relations and unparalleled technical expertise, began to build boundary-spanning capabilities as an outgrowth of its Tech Forum activities. The Tech Forum, a 7,000-member global association of 3M technical employees, has developed a number of internal boundary-spanning mechanisms and programs, including chapters based on technical areas of expertise. In late 1997, Peter Fritz, former Tech Forum chair and technical manager in the abrasives division, began to see a need for building "conduits" for technical managers to advance linkages with counterpart technical managers in customer firms. He saw not only that there was a need for enhanced information flows at all levels of the company but that the information flow must be transformed to sharing knowledge and learning strategies that increase customer regard and build strong intercompany relationships. The way to achieve these goals was through delineation and dissemination of boundary-spanning skills. As Fritz notes:

> Boundary-spanning skills addressed our needs to build direct, tech-to-tech communications across company boundaries, and to improve our capacity for collaborative learning from outside the company. We clearly saw that systems that worked internally would need to be enhanced in order to deal with our non-U.S. customers, and with the connections and new ways of working we were required to create to access our customers' "hidden needs."

In 1998, Fritz formed the corporate outreach committee to explore and begin promoting the need for external perspectives at the technical worker level. "Our work with the boundary-spanning skills has been revolutionary in terms of the type of interactions we are having with external companies now," he said.

> Beyond "data exchange," we are beginning to build the networks that shed light on our own knowledge-generating activities. These learning relationships highlight areas we should focus on, and provide us with access to tools and ideas—innovative uses of the Internet and conferencing software, for example—that are accelerating our transformation to a networked organization.

A case from the author's consulting practice showed that creation of a parallel learning group needs to be based first on a firm grasp of organizational learning principles (Senge, 1990; Argyris & Schön, 1978). These principles are best learned through workshops that include exercises that allow the group to grapple with the principles and create its own internal case examples. The parallel group, in attempting to establish new norms, can experience "slipping" between new norms and old cultural habits. Part of this slippage is due to the need to navigate the organizational system to accomplish tasks, which necessarily pulls the members back to old forms of behavior. Direct access to senior management and the ability to pass over typical chain-of-command requirements support the parallel group in creating a successful practice field.

An example of this type of direct senior management access is seen in Sharp's emergency technical research and development (R&D) teams—cross-functional teams that can respond rapidly to perceived technological "threats" and report directly to the president. Direct access to senior management allows the parallel group to practice and experiment successfully with the new desired behaviors.

Study Groups

The home of the study group method is the Japanese firm. According to a recent survey, 83% of large companies in Japan use study groups, and 59% of managers report satisfaction with study group results. The number and variety of study groups, more generally known as *small-group activities* (*sho shudan katsudo*), within the Japanese firm is compelling. Small-group activities include no-error movements, level-up movements, big-brother and big-sister groups, zero defect (ZD) movements, mini–think tanks, suggestion groups, safety groups, workshop involvement movements, productivity committees, management-by-objectives groups, and workshop talk groups. All these may be discussed under the general term *study group*.

Typical formats for study group process include members and teams studying the same topic and sharing findings; each member and team studying a different topic and exchanging findings (similar to the "jigsaw" method described later); members and teams meeting to discuss their firm's processes and exchanging practices; and members and teams meeting with an external organization to study their process and discussing applications to their own firms.

The study group has two purposes: to learn about the topic chosen for study and to develop the members' abilities to work and learn collaboratively. The company in Japan offers and supports the training programs for study group participation and usually coordinates them through a central study group secretariat. Study groups typically feature rotating facilitation by a member. Though management may be involved, typically it is in the role of advisor. The groups meet regularly, often several times a month.

Much of the learning and information gathering in study groups takes place informally. In other words, study groups—for process improvement, new knowledge, or knowledge exchange—are so well accepted that it is commonplace for these groups to form, function, and disband according to need at all levels of the organization. An example of an interorganizational study group that the author is familiar with is the informal association of human resource managers of major Japanese firms. This group meets periodically with academics and government experts to discuss learning opportunities. One such group heard from one of its academic advisors about General Electric's (GE's) Change Acceleration Process and asked GE Japan for a seminar about the subject. These are the types of informal activities in which Japanese interorganizational study groups engage.

Leader's Circles

Leader's circles focus on personal development through peer learning, mentoring, and counseling involving problem-solving activities. The leader's circle meets monthly, and each member has 20 to 30 minutes to present a problem or issue. Presenters then hear focused feedback, questioning, support, and relevant materials—whatever members agree is helpful. All circle members decide the goal on which they will work. Each one commits to implement the advice given in the circle before the next meeting and to report on changes that resulted. To ensure that the group's goals remain focused, each meeting closes with a process review. The method requires little external facilitation and can adapt to crowded schedules.

Reciprocal Teaching Groups

Reciprocal teaching is a method of group learning based on the principle of distributed expertise and peer learning and teaching. The method involves the formation of small research groups, each responsible for a subset of knowledge of a larger field of inquiry. The small groups complete their investigations and compilation of research, and then the entire group convenes to "jigsaw" into new small groups, where each group is composed of one member from each research team. The new, jigsawed teams then report their findings to representatives from the other research teams. Jigsawing continues until every member of the entire group has learned from every research team. Each member's learning process is enhanced through teaching and through answering questions, summarizing, clarifying, and predicting the answers to further questions. Participants with particular interests are encouraged to concentrate on one aspect of the subject of inquiry and become a community resource to others. Reciprocal teaching, through verbal exchange and multiple team formation, the primary mode of instruction, presents members with challenges in problem solving, differing communication styles, and support and channeling of weaker and stronger learners.

Wisdom Councils

A wisdom council is 12 to 24 people randomly selected to come together as a temporary learning system. The purpose of the council is to determine the pulse of the organization and to act as a subset of the whole to determine key issues or obstacles—needed changes—in the organization. The participants can come from any level or job function in the organization. Like a jury, they seek a unanimous view. Unlike a jury, they use an open-space approach to determine their own agenda. Generally, through the assistance of a facilitator, the council engages in dialogue to uncover collaborative breakthroughs. The goal of the council is to create and announce a unanimous, nonbinding statement that articulates the informed wisdom of the people. The council then disbands, and new participants create the council the following year.

The wisdom council represents a structured, time-limited period of reflection for the organization. Through inquiry and probing, it begins to uncover the underlying issues that represent common concerns in the organization. For example, in a county public works department, the wisdom council determined that the critical issue was workload, which it proposed to resolve by hiring additional workers or creating more free time during the day. Finally, however, the council realized that the underlying issue was that the workers did not feel that they were respected in their jobs. This brought forth some creative solutions and was empowering for the council members and the organization as a whole.

Because wisdom councils' statements are unanimous, they are powerful. Though they do not suggest specific change projects, they can shift the direction of the organization to examine issues more closely.

Phase Four: Capturing and Disseminating Learning

Capturing and disseminating learning is the most challenging aspect of collaborative learning. How should learning be generalized and made most useful to the organization? Typical approaches include after-action reviews and postmortems using internal publications to publish successful collaboration stories and creation of Internet or database resources. All are useful approaches. Change agents should also consider unorthodox approaches, such as the creation of a group statement or manifesto concerning collaborative learning needs and results. Humor and drama are also powerful communicators of the collaborative learning imperative. Humor combined with graphics makes an especially powerful impact. Possible approaches include a company comic strip or single-frame political cartoon (as evidenced by the popular newspaper comic strip character, Dilbert). Graphical humor is a compelling way to communicate ideas.

Phase Five: Creating Value

If the activity of collaborative learning is not disseminated to the organization, systemic change and improved collaboration will not result. Change agents must facilitate closed-loop processes,[1] where they actively seek feedback and engage the learning that they have

received through collaborative activities. Without "working" the learning in the system, it remains the property of a few and cannot benefit the whole system.

An example of a closed-loop process in collaborative learning would be to complete a phase of learning and to disseminate that learning through mentoring and peer teaching forums. Feedback from those activities then helps the organization define the next learning focus for collaborative activities. In short, the outcome of the implementation phase—"We focused on this, this is what we learned, we have disseminated that learning through various channels, and we have received their feedback"— creates new input to the next collaborative learning effort.

Phase Six: Enhancing Interdependence

This stage of the collaborative learning cycle is the most challenging for U.S. organizations because of American cultural inhibitions around mixing business and personal relationships. For collaborative learning to continue, however, members must develop a sixth sense, or awareness, of how to create strong networks among current and former collaborators. Change agents will need to foster and encourage that awareness.

As technology and change gain momentum, no professionals can claim enough mental bandwidth to maintain learning in all the necessary endeavors they are engaged in. An organization can sustain its collaborative learning only by building interdependence among members. This is where the personal learning network (PLN), born of series of learning collaborations, can be a valuable tool for enhancing and building interdependence (Digenti, 1998a).

The PLN consists of relationships between individuals where the goal is enhancement of mutual learning. The currency of the PLN is learning in the form of feedback, insights, documentation, new contacts, or new business opportunities. It is based on reciprocity and a level of trust that each party is actively seeking value-added information for the other.

How do you build a PLN? First, it is important to overcome the hesitation around "using" people. If you are building a PLN, you will always be in a reciprocating relationship with the others in the network. Ideally, you should feel that your main job in the network is to provide value-added information to those who can, in turn, increase your learning. There is no "tit-for-tat" formula for this exchange (see further about the learning contract, if a more formal arrangement seems appropriate), so any fears of using or being used should be allayed.

 Follow these steps to build your PLN:

- Develop a mind map of your learning objectives (Buzan, 1996). For example, if you are an expert in group process and have a network of colleagues who support your learning in that area, that part of your map is "filled out." Perhaps you are weak in Internet technology, however, and would like to develop learning partners who could not only bring you up to speed but commit to keeping you informed about late-breaking technology and act as a resource for you in that area. Here, you have a learning area but no contacts: It needs to be filled out. Determine who is currently in your network of contacts and how they fit into your PLN.
- Develop a plan for building up the areas in which you would like to learn. This can be done by building on existing contacts, through professional societies, through members of your firm, or through networking meetings. Engage in regular, value-added communications with the members of your PLN while you are expanding new contacts. You must be continually aware of new learning or data that will be valuable to members of your PLN. This is the key to enhancing interdependence.

To have a truly valuable PLN, investments in time and resources are essential. This requires an extension of the typical transactional business mind-set. If, as a business manager or change agent, we "do the deal" and fail to consider building our PLN, we have lost much of the value of our interactions. This is particularly true in the activities of collaborative learning, where each project we engage in should enhance and broaden the PLN of each member.

Formalizing the PLN is possible through the use of learning contracts (Knowles, 1991). The learning contract includes outlining learning objectives, learning activities, learning

resources, and evaluation. It may also help to outline the roles of each party in the contract and to set the duration of the project. Each party should then sign the contract to symbolize his or her commitment. This type of simple agreement is helpful for building the PLN when trust, time usage, or need to document the learning accomplishment are issues.

If the organization has adopted a collaborative learning imperative and the members of the organization are building their PLNs within and outside the organization, the key sticking point of transfer and dissemination of value-added learning is largely eliminated. To sustain the effort, interdependence and deepening of collaborative relationships lead to new levels of assessment: How can the collaborative learning process be made faster, better, more inclusive, more targeted to emerging needs? This begins anew the collaborative learning cycle.

Summary

Far from being a sole source of organizational revitalization and strength, collaborative learning is one aspect for managers and change agents to consider in helping organizations build sustainability. Collaborative learning can change the way employees address their jobs, their company, customers, and even their competition but by itself cannot "save" the organization. However, given the challenges in global economies and technological change, those organizations that can learn effectively in collaboration will be well positioned to survive and prosper.

Note

1. The term *closed-loop process* is borrowed from engineering and recycling usages, where closed-loop refers to the fact that the inputs to the system loop are dependent on the outputs of that same system. For example, a plastic milk jug (output) is built of recycled plastic material from used milk jugs (input). This is in contrast to an open-loop system, where inputs and outputs are independent of each other. In the case of value creation of a collaborative learning effort, the feedback from those to whom the learning was disseminated must be an integral part of the input for the next cycle of collaborative learning. The other origin for the term *closed-loop process* is from the Japanese *yarinuki*, which is the process of complete follow-through in a process or cycle.

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Commentary by Silvia Gherardi

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Silvia Gherardi

The donkey is—or was until a few decades ago—an animal common to all Mediterranean countries. In folklore, the donkey symbolizes stubbornness, hence the Italian saying: "You can lead a donkey to water but you can't make it drink."

The relationship between management, organizations, and "collaborative learning" is similar to the relationship between the peasant, the donkey, and water. There is absolutely no doubt—or at least there is general agreement—that learning constitutes, and will constitute, a strategic core competence for organizations, just as the donkey needs water.

Digenti precisely defines the "water" for business organizations in the "new economy." It is, she writes, "learning from alliances, [which] is critical for viability in the technological changes we are facing." The strategic problem is how to learn from alliances (internal and external) without losing contact with the market in the "networked world" that characterizes the new economy. Digenti depicts a networked world in which various factors are at work:

- Shared knowledge and product capability increase profits for all.
- Beneath-the-radar trends explode as the focus of geometric profits.
- Laws of product lifecycle are skewed.
- Prices for the best technology constantly decrease.
- Individual companies rise and fall but the network remains intact.
- The best products are given away free.
- Continuous disequilibrium must be sought rather than cured.

Digenti argues that in this scenario, a strategic advantage is collaborative learning competence. By this she means "a business practice whose development is outpacing the creation of supporting theories." What makes her argument particularly interesting is the idea that collaborative learning is already a business practice. The challenge—as intellectual as it as practical—is to develop a body of knowledge that can translate this idea into practice. Digenti proposes a "collaborative learning cycle."

Without going into details of the phases involved in the creation and re-creation of collaborative learning, I will emphasize only the first phase, "collaboration assessment," because this phase makes explicit a premise on which Digenti bases her interpretative model.

As the Greek philosophers have taught us, to have knowledge we should know what we do not know. With regard to organizations, before attempting to introduce a work practice based on collaborative learning, it is important to understand an organization's attitude toward collaboration and understand existing systems of collaboration within that organization. Digenti calls this phase "a tool for uncovering tacit knowledge about collaboration." Once again, when authors examine the process of knowledge building and learning, they encounter the iceberg of tacit knowledge. If the incognito of tacit knowledge (and of what constitutes skill or competence) were only a cognitive problem, it could be solved by the techniques and technologies of rational thought: One would merely make what is tacit explicit, on the assumption that nothing is lost in the procedure. But how much do we organizational scholars know about collaboration and its forms, so that we can be sure that explicating the premises of this interpersonal (more than organizational) relationship does not kill the collaboration, thereby proving to be counterproductive? I raise this doubt to undermine the omnipotence of the idea that we scholars or agents of change (or both) hold of organizations. The imperative for managerial knowledge is to control design and rational knowledge, but organizational life is shrouded by mystery and secrecy.
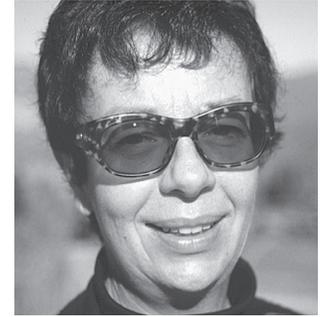
Digenti seems to be aware of these gray areas, because she argues that managers who want to translate collaborative learning into practice must change their mindset:

- They must acknowledge that they do not know where the next set of changes will take them.
- They must understand that today's core technological and product competencies may be obsolete in a few years.
- They must be convinced that the differentiating factor between success and failure in the face of discontinuous change will be the ability to learn and collaborate.

In other words, it is subjectively important for management that the people in their own organizations and others in the network collaborate and produce knowledge that is useful (value-creating) for the organization and the network. Here, I believe, the recalcitrance of organizations and the resistance of human beings enter the scene. And not only these, since the limited ability of organizational knowledge to handle themes, such as learning, knowledge, collaboration, and trust, is also important.

I see two main obstacles to translating collaborative learning into practice. First, collaboration and learning are relational concepts: They take place within social relations and emotional relationships. When the relationship is asymmetrical—as work relationships are, by definition—the reciprocity of the collaboration is annulled. Is an explicit contract enough to make the exchange fair? Or do the terms *learning* and *collaboration* reflect the paradoxical injunction (as in, "be spontaneous") discussed by Watzlawick? The problem, more ethical than organizational, is understanding how and to what extent a work contract can induce individuals and groups to accept learning and continuous change. A management that seeks to control its workforce's cognitive capacities challenges the boundaries between public and private. The transparency of industrial relations is at stake and with it the question of power relations.

Second, knowledge and power are a single phenomenon; there is never one without the other. Knowledge is the basis of power, and power restricts monopolies of knowledge. The act of defining what constitutes value-creating learning, and for whom this value is created, is itself the expression of a power structure. Moreover, power relations operate through cultural relations, which may value differently the distance of power or the egalitarian social relation, both in society and in organizations. When knowledge is produced and travels through cultures, the hierarchy destroys it, thus devaluing the knowledge of the powerless (defined by class, gender, or race).

I believe that the main difficulties that learning raises for the community of organizational scholars reside in the resistance of social relations to being managed. But this should not dissuade us from developing and experimenting with techniques that bring our metaphorical donkey to the water, accepting that it may or may not drink. Neither should we think that replacing the donkey with technology will solve the problem.

Russell L. Ackoff

Commentary by Russell L. Ackoff

There are only two sources of learning: others and experience. The others from whom one can learn have either learned what they know from others, or they have learned from experience. But all learning originally derives from experience. Despite this, the bulk of the literature on learning organizations is about learning from others. Dori Digenti's article falls into this category.

There is relatively little literature about learning from experience and making it available to others in and out of an organization. This worries me, because no amount of sharing of ignorance can produce knowledge. What assurance is there that the alleged knowledge shared in collaborative relationships is valid? Saying so does not make it so. In other words, generally speaking, the evaluative aspect of learning is not treated adequately in treatment of transmission and sharing of learning from and with others.

It is for this reason, for example, that we suffer much more from an overabundance of irrelevant information than from a shortage of the relevant. Technology is currently contributing much more to the generation of irrelevant information than relevant. Though capable of filtering irrelevant information and selecting what is relevant, little effort goes into it. The technologists involved are much more interested in doing the wrong thing more efficiently than in doing the right thing.

Peter Drucker once differentiated between doing things right and doing the right thing. Doing things right has to do with efficiency, hence knowledge. Doing the right thing has to do with effectiveness, hence wisdom. Much of the knowledge I see being transmitted and shared is about efficiency, not effectiveness. The *righter* we do the wrong thing, the *wronger* we become. Correcting an error when

doing the wrong thing makes us *wronger*. Therefore, it is much better to do the right thing wrong—because error correction in this context makes things *righter*—than to do the wrong thing *righter*.

For example: the so-called health-care system is not a health-care system but a sickness-and-disability care system. Regardless of the intentions of the servers within that system, those servers must preserve or create enough illness and disabilities to enable the system to survive. *The worst thing that could happen to this system is that everyone becomes healthy.* Improving the current system makes it worse! A good deal of research-produced evidence supports this, for example, the large amount of unnecessary surgery and testing, maltreatment, and excess treatment that produce or exacerbate illness; hospital-transmitted infections; and harmful effects deriving from interactions of prescribed drugs. Collaborative sharing of knowledge about improving the current system is more often than not counterproductive.

How can collaborative learning be made to focus on the rightness of what is being done rather than the rightness of the way it is being done? And what can be done to encourage the literature to turn in this direction?

Author's Response
I see learning from experience and learning from people as two sides of the same coin.

An individual's knowledge derives partially from experience and partially from received knowledge. We are still making the transition from acknowledging only academic learning—where I learn a set of facts from an acknowledged expert (whose knowledge is assumed to be valid), become an expert, and in turn teach that knowledge—to acknowledging experiential and peer-based learning as well, where I engage in mutual exploration (learning from experience) with a group of individuals (learning from people). It is difficult for academics to trust this type of learning activity, where no institution or credential states that our knowledge is valid.

But unless we engage in collaborative learning, there is no process for revealing and using tacit knowledge. The knowledge resident in one individual's head can, unbeknownst to that individual, hold the key to a new approach or innovation for another individual or group. Only through group interaction does this tacit knowledge become useable. As change accelerates, it is this current of ideas embodied in networks of people that can create positive affects in the organization.

Yet, I wholeheartedly agree with the belief that learning from others could take us further into the "hall of mirrors" that Ackoff describes through the example of the health care system. How can organizations avoid reinforcing the wrong types of learning, and then spreading them around through collaborative learning?

First, there are issues of trust to deal with in a peer learning effort, as mentioned above. It seems clear that collaborative learning groups must develop awareness of organizational blind spots so that learning leads to positive change. To do so, they must seek inputs from outside their own system, as Edgar Schein has stated. But here also, a group of organizations can get caught—trapped—in "data exchange" only. That is, organizations can meet together to build networks and exchange information, perhaps resulting in more efficient practices, but never go deep enough to effect transformational change. It requires a real interest in understanding the cultural blind spots (as one manager described it, "put windows in the tunnel"), and commitment and individual skill training in boundary spanning. It is also a velvet revolution, in that the process is slow, incremental, peer-based, and subtle. It flies in the face of our expert-based "zap" approaches that offer change in systems, not mindsets.

A group of organizations that share the same industrial focus (as in the healthcare system example) will be challenged to break out of their industrial mindset. They may tend to reinforce the status quo, rather than develop a commitment to transformational change. This is where the societal level of learning could be useful. That is, industry groups as a collective must also actively seek external feedback and input on basic assumptions, and then have the requisite systems skills to be able to process those inputs.

In summary, for collaborative learning to be effective, it must incorporate learning strategies at the individual, group, organizational, interorganization, and societal levels. Structured properly, these levels of systems can act as checks on the validity of what we are learning. And a learning strategy must include ways for the learning taking place to be accessible to each of those levels in an iterative process. We need to develop the organizational and societal mechanisms for this sort of dense learning to take place.