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A New Paradigm for Corporate Training

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Recently, there has been a number of driving forces for restructuring companies in Korea. Some of these pressures have come from the outside, for example, the International Monetary Fund's demands for globalization and a more open economic systems. Other forces are within Korea, such as pressures for self-renewal and for structural change among stakeholders. These driving forces from outside and inside provide an impetus for structural transformation. But there may be an even more important impetus.

Ackoff (1981) argues that advanced economies throughout the world are leaving the machine age and entering the systems age. In so doing, important changes are taking place in our minds as well as in our environment. There is no doubt that we have become increasingly sensitive to changes in our environment, and that we now perceive a need for changes that once were ignored. But the most important demand for change we face is in the way we try to understand the world, our "weltanschauung" (world view).

Kuhn (1970) explains that doubts about a prevailing world view usually begin with the appearances of dilemmas. A dilemma is a problem or question that cannot be solved or answered within the prevailing world view and is thus called into question. Therefore, the prevailing modes of behavior and belief gives way to new modes by the process of scientific revolution. He calls this process the succession of paradigms.

Drucker (1996) characterizes the succession of economic paradigms as moving from the age of capitalism to a post-capitalist society called a knowledge society, in which knowledge is displacing capital as the primary economic resource. During the transition society rearranges itself, its worldview, its basic values, its social and political structure, its arts, and its key institutions. The corporate-restructuring, total-quality-management, reengineering, and learning-organization movements are a response to the driving forces behind this succession of paradigms.

In the context of this transition to a knowledge society (or what many refer to as an information society), training (or HRD) departments are likely to assume a more important role in leveraging your company's sustainable competitive advantage. In this article, we will examine the need to restructure your training system and we will explore what a new paradigm of training might be like.

Restructure a Corporate Training System?

It is helpful to think in terms of two different kinds of change:

Piecemeal change, often called tinkering, which entails modifying something and fixing a part of it, and

Systemic change, often called a paradigm shift, which entails replacing the whole thing.

Systemic change is comprehensive. It recognizes that a fundamental change in one aspect of a system requires fundamental changes in other aspects in order for the change to be successful. Such an approach to change is indeed radical, not to mention difficult and risky. So we need to be very sure it is needed before we undertake systemic change.

Daniel Bell (1973), Alvin Toffler (1980), Robert Reich (1991), and others have identified several massive changes that societies have undergone from the agrarian to the industrial age, and now the information (or knowledge) age. The dawn of the industrial age brought with it massive changes in all of society's systems, including the family, business, and education. Now that we are evolving into the information age, we find that a paradigm shift is occurring in all of our societal systems, from communications and transportation to the workplace. If this is true, it will help us to understand why we need a paradigm shift in corporate training. So let's explore the nature of these paradigm shifts.

1. The Nature of Our Major Paradigm Shifts

We begin with a look at the family. The extended family in the agrarian age entailed the parents and children living together with grandparents and even aunts, uncles, and cousins. This gave way to the nuclear family in the industrial age. In turn, the information age has given rise to the dual-income family and the single-parent family (see Table 1). This societal change has important implications for changes needed in business.

〈Table 1: Major Paradigm Shifts in Society〉

Waves of change	Agrarian age	Industrial age	Information age
Family	Extended family	Nuclear family	Working-parent family
Business	Family control	Bureaucratic control	Team control
Transportation	Horse	Train	Plane & car
Education & training	Tutoring & apprenticeship	Teacher & curriculum focus	Student & performance focus

Businesses in the agrarian age were organized around the family: the family farm, the family trade (e.g., bakery, carpentry). The family represented the organizational structure and lines of authority for business. This gave way to the bureaucratic form of organization in the industrial age. Today, corporations are restructuring to create horizontal "enterprise webs" in place of vertical layers of middle managers (Reich, 1991). Transformations based on team approaches, total quality management, and technological imperatives are rapidly changing the organizational structure of the businesses worldwide.

Our current training and education systems are much like the railroad, in that everyone has to get on at the same time in the same place and travel at the same speed to the same destination, or get dropped off along the way. But society and the global economy have been changing in such dramatic ways that we need new educational and training systems, just as we needed the customization offered by the automobile and the quantum improvement in productivity offered by the airplane. But what should the new paradigm of training be like?

2. What Paradigm of Training Is Needed for the Information Age?

The need for a new paradigm of corporate training is based on massive changes in both the training needs and conditions in an information society. We must look at those changes in order to figure out what features the new training system should have. Table 2 shows some of the major differences between the industrial age and the emerging information age. These differences have important implications for the features of the new training system: how it should be structured, what services it should provide, and how services are delivered.

〈Table 2: Major Differences between the Industrial Age and the Information Age that Affect Business〉

Industrial Age	Information age
Centralized control	Autonomy with team accountability
Autocratic leadership	Shared leadership
Bureaucratic organization	Team organization
Adversarial relationships	Cooperative relationships
Compliance	Initiative
Conformity	Diversity
One-way communications	Networking
Mass production	Customized production
Mass marketing and communications	Customized marketing and communications
Compartmentalization (Division of Labor)	Holism (Integration of tasks)

Industrial-age organizations are characterized by adversarial relationships, not only between managers and workers, but also between trainers and learners, and often between a company and its customers. Leadership is vested in individuals according to a hierarchical management structure. All those lower in the hierarchy are expected to do what the leader says. Company operations and training programs alike are highly compartmentalized into departments or content areas. Learners are typically treated as if they are all the same and are all expected to do the same things at the same time. They are also often forced to be passive learners. These features of our current training systems must all change (and are indeed beginning to change), for they are counter productive and harmful to their organizations in the information age. To respond quickly to changes in the marketplace and changes in technologies underlying our products and services, there is no time to let information flow up the bureaucracy and decisions to be passed down. We need our employees who are "on the front lines"-those who are most knowledgeable about the customers' changing needs or about the most recent developments and potentialities of technology-to make decisions, or we will lose our com-

petitive advantage.

In the industrial age we needed minimally educated people who were willing and able to endure the tedium of work on the assembly lines. However, those assembly-line jobs are rapidly disappearing. Just as the percentage of the work force in agriculture dropped dramatically in the early stages of the industrial age, so the percentage in manufacturing has been declining dramatically over the past few decades. As Reich (1991) points out, even in manufacturing companies, a majority of the jobs today entail manipulating information rather than materials. Just as the industrial age represented a focus on, and extension of, our physical capabilities (mechanical technology), so the information age represents a focus on, and extension of, our mental capabilities (intellectual technology). This makes effective learning paramount.

But surprisingly, our current training systems are typically not designed for learning. We know that our employees learn at different rates and have different learning needs and different entering knowledge. Yet we teach them the same content in the same amount of time. By holding time constant, we force achievement to vary. And we do this to see who are the "brightest" employees. Our training systems are designed more for sorting and selecting employees than for ensuring that all of them acquire the skills and knowledge they need to be successful. But in the information age, a company's most valuable assets are the knowledge and skills of its employees, so the training systems need to allow each trainee the amount of time he or she needs to reach mastery. Clearly, the trainer's traditional role as dispenser of knowledge will not work if different trainees are learning different things at any given time. This means that the trainer needs to become a facilitator of learning, a "guide on the side" rather than a "sage on the stage." If the trainer is to be a learning facilitator and knowledge manager, then that requires the system to be resource-based, utilizing powerful new tools offered by advanced technology, rather than trainer-based. And it requires much more collaboration and teamwork among learners, including collaborative learning. This is truly a new paradigm of training-a learning-focused paradigm rather than a sorting-focused paradigm-one that is customized to the needs of each employee rather than standardized to compare performance.

Interestingly, the industrial age not only made a new system of transportation-the railroad-necessary (to ship large quantities of raw materials and finished goods to and from factories), but it also made the railroad possible

(with its manufacturing technology). In a similar way, the information age has not only made a new training system necessary, but has also made it possible (with its information technologies). We now have powerful tools to facilitate customized learning that we did not have a few years ago. And the power of those tools continues to increase, while their cost continues to decline dramatically.

But there is another, perhaps even more important, consideration for thinking about the new paradigm of training. Peter Senge's book, *The Fifth Discipline: The Art and Practice of the Learning Organization*, "has stimulated much interest recently in the notion of a learning organization. In the next section, we will discuss what is a learning organization, whether it is something your organization should become. If you are in a relatively stable business where neither the technology nor the customers' needs are changing very much, then the traditional bureaucratic organization may be better than a learning organization for you. Otherwise, you will likely find you will become less and less competitive if you do not evolve to become a learning organization. So the question emerges, "What should a training department do to help your organization evolve into a learning organization?"

g in a Learning Organization

Fortune Magazine, March 1990, states "Forget your tired old ideas about leadership. The most successful corporation of the 1990s will be something called a learning organization." De Geus (1988) points out "The ability to learn faster than competitors may be the only sustainable competitive advantage."

Peter Senge defines a learning organization as "continually expanding its capacity to create its future." Building a learning organization is a matter of developing five disciplines. Systems thinking, which entails keeping the big picture foremost in everyone's mind. It is the discipline that informs and knits together the other four disciplines: shared vision, challenging mental models, team learning, and personal mastery. Shared vision is the development of common purpose and commitment. Challenging mental models means unearthing the powerful assumptions that prevent people from working together. Team learning happens when a group collectively creates the results its members aim for. And personal mastery is achieved when individuals become fully committed to their own lifelong learning.

Inspired by the success of Senge (1990), many management consultants and researchers have discussed learning organization. A number of books on how to develop this concept have come out during the past few years. Their common theme is that creating learning organizations tends to support the depth and rate of change in the post-industrial revolution. The old mechanistic ways of thinking, appropriate for the industrial age, no longer suffice. Those who write about learning organizations contend that modern organizations must create contexts in which members can continually learn and experiment, think systemically, question their assumptions and mental models, engage in meaningful dialogue, and create visions that energize action.

1. Why a Learning Organization?

Three kinds of concepts may be appropriate for explaining the importance and rationale of building a learning organization in your company: Resource Based Perspective, Knowledge Base, and Systems Thinking.

A. Resource Based Perspective

Many of the perspectives that dominated the early thinking concerning competitive advantage have their roots in traditional economic theory (Caves & Porter, 1977; Chandler, 1990; Porter, 1985). They emphasize economies of scale and scope, the optimization of transaction costs across subsidiaries, and critical market characteristics to explain different firm-level strategies. In this theoretical context, firm strategies are designed to secure competitive advantage by responding to environmental changes and co-aligning firm strengths with external opportunities (Barney, 1991; Porter, 1985).

Environmental conditions and industry characteristics are assumed to largely shape the firm's strategy. In recent years, however, other streams of research emphasizing a "resource-based" or "skill-based" perspective of strategy and organization have evolved to characterize the firm as a collection of unique skills and capabilities that influence the firm's evolution and strategic growth alternatives (Barney, 1991; Mahoney & Pandian, 1992; Winter, 1987).

Although firms in any given industry are likely to face similar types

of environmental forces, the differences in their accumulated resource endowments (e.g., skills, propensity for learning, specialized assets) could become important factors that may influence the development of competitive advantages (Barney, 1991). The notions of learning, technological expertise and skill development have only recently been considered in the context of developing firm-level strategies that take advantage of differences in firm resources and assets to better respond to the environment (Collis, 1991; Hamel, 1991).

B. A Firms Knowledge Base (Explicit/Tacit Knowledge)

Technological and skill accumulation often occurs through "learning by doing" or "learning by activity." Acquired experiences, in turn, result in each firm's evolutionary path of differentiated technological skills and learning capabilities. Depending on the firm's history and direction, firm-specific learning and skill accumulation paths may translate into embedded or tacit knowledge that becomes the basis for a sustainable competitive advantage. Core competencies can become institutionalized over time (Leonard-Barton, 1992) and thus become part of the firm's knowledge-creating system. When embedded into the social fabric of the firm, competencies can provide sources of competitive advantage because they depend on the unique interrelationships between people, routines and technologies that are highly unparalleled.

The knowledge obtained from both internal R&D efforts and vicarious learning through collaborative arrangements may be dichotomized into two broad forms: explicit and tacit knowledge. Explicit knowledge is "generic," and any firm (e.g., competitor) can develop it without much difficulty (Hamel, 1991). For example, blueprints, technical specifications, or standardized designs represent information that other firms can easily imitate. Often, explicit knowledge is embodied in the product in such a way that competitors can easily understand it (e.g., through reverse engineering). Although explicit knowledge initially may be proprietary to the firm that developed it, it is easier to acquire than tacit knowledge. In this sense, explicit knowledge is readily transparent and open to imitation by other firms.

Tacit knowledge, however, is neither easily imitated nor clearly understood outside the firm. Unlike explicit knowledge (which has an off-the-shelf quality), tacit knowledge is firm-specific and often cannot be written or encoded (Nonaka, 1995). Tacit knowledge also has an immutable, hard-to-decipher quality that cannot be easily transmitted to others. It often repre-

sents a shared experience among an organization's members. Thus, tacit knowledge is richer than explicit knowledge. While R&D can be important in developing tacit knowledge about products and processes, implementing new manufacturing technologies often depends on organizational knowledge that is embedded within the firm. For example, the skills required to implement a new production process successfully are often specific to the organization or its team members in ways that outsiders cannot easily duplicate.

Vicarious learning through collaborative arrangements is often the route by which many firms can accelerate development of a knowledge base. Explicit knowledge can be readily transmitted and learned by other firms through market transactions and arrangements. Tacit forms of knowledge, on the other hand, often can only be learned by "apprenticeship" or learning-by-doing through collaborative arrangements. Hamel (1990) noted that many Japanese firms have complemented internal R&D efforts with joint ventures that allowed them to internalize the tacit knowledge and skills of their partners.

The application of learning to develop core competencies requires that firms be able to process, store and retrieve information. Therefore, firms must develop an organizational memory (Fiol, 1991; Huber, 1991). An organizational memory helps refine the firm's search and solution heuristics. This is necessary for effective problem definition and solution.

Organizational memory resides in enduring media, such as corporate values and norms via firm culture (Dougherty, 1992) and special product development teams (Nonaka, 1995) that help transfer technical knowledge throughout the firm (Hamel, 1991; Itami, 1991). Tacit knowledge is often captured in metaphors that outsiders cannot easily decode. The use of such metaphors produces a firm-specific language that serves as an efficient means of information storage and transfer. Such a system helps translate learning into core competencies, while at the same time creating causal ambiguity (Nonaka, 1995). Thus, the acquisition of universal and especially tacit knowledge helps the firm understand and define complex problems and, therefore, solve them in unique ways.

Building invisible assets is particularly significant if technologies are, indeed, more human or organization-embedded (Clark, 1989). This complements or supplants traditional approaches to global competition and strategy formulation.

C. Emerging Importance of Systems Thinking

Systems thinking has come to the attention of social scientists, planners, operational engineers, managers, educators, and the like, as a tool for problem solving and decision making. According to Banathy (1991), systems thinking will be an important skill needed in industrial training curricula for solving complex problems. Also, Reich (1991) predicted that system thinking will be an essential skill for promising job areas like symbolic analyst.

In the 1950s, Bertalanffy introduced "General Systems Theory" into academic domains in both the physical and social sciences. He developed his ideas in the process of opposing dominant scientific thinking in biology, which was based upon elementalism and closed systems, not holism and open systems. It was a starting point for systems thinking. Later, Checkland (1981) elaborated upon the concept of "systems thinking" by differentiating between "hard versus soft systems thinking." Hard systems thinking assumes that the problem task is to select an efficient means of achieving a known and defined end. It includes classical operational research, systems analysis and system engineering, and cybernetics (stressing automatic control and communication among components). However, soft systems thinking focuses more on ill-structured problems or messy phenomena. Other influential scholars are Ackoff, Banathy, Boulding, Churchman, Drucker, and others.

Senge (1991) mentions systems thinking as the most critical of the five disciplines. He defines systems thinking as the application of systems concepts and theories to complex problems. It encompasses a large body of methods, tools, and principles, all oriented to looking at the interrelatedness of forces and seeing them as part of a common process.

In terms of existing mindsets or perspectives, nonlinear or complex phenomena are considered chaotic and fussy, as people tend to think about things analytically, not as wholes. Systems thinking is a kind of tool for finding some pattern or new kind of order from complex phenomena, which cannot be achieved by analytical, reductionistic thinking.

Systems thinking entails double-loop learning, which is a kind of meta-cognitive process. According to Argyris (1996), "Whenever an error is detected and corrected without questioning or altering the underlying values of the system, the learning is single-loop. The term is borrowed from electrical engineering or cybernetics where, for example, a thermostat is defined as a single-loop learner. The thermostat is programmed to detect states of "too cold" or "too-hot," and to correct the situation by turning the heat on or off.

If the thermostat asked itself such questions as why it was set at 68 degrees, or why it was programmed as it was, then it would be a double-loop learner."

2. The Five Disciplines in a Learning Organization

Senge (1990) regards five disciplines as building blocks for a learning organization.

- 1) **Systems thinking** is an ability to understand the pattern of interrelationships among key components of a system. It is a corner stone for the other four disciplines.
- 2) **Personal mastery** is learning to expand our personal capacity to create the results we most desire, and creating an organizational environment which encourages all of its members to develop themselves toward the goals and purposes they choose.
- 3) **Mental model** is a world view in a person's mind, which determines not only how we make sense of the world, but also how we take action.
- 4) **Shared vision** is a vehicle for building shared meaning. It provides the focus and energy for learning, new ways of thinking, and action.
- 5) **Team learning** means transforming conversational and collective thinking skills, so that groups of people can reliably develop intelligence and ability greater than the sum of individual members' talents.

The five disciplines are enablers for creating a new culture and for shifting from the old, industrial and mechanistic age, to the new, information and systems age.

A. Systems Thinking

Senge's systems thinking has its foundation in the field of system dynamics, founded by MIT professor Jay Forrester. Forrester recognized the need for a better way of testing new ideas about social systems in terms of systems engineering. The approach of systems thinking is fundamentally different from that of traditional forms of analysis. Instead of focusing on the individual pieces of what is being studied, systems thinking focuses on how the phenomenon being studied interacts with the other constituents of the system. This means that instead of isolating smaller and smaller parts of the system being studied, systems thinking expands one's view to larger and larger numbers of interactions as one continues to study an issue.

Creating an effective organization requires new tools and new ways

of thinking. Systems thinking is emerging as a powerful and innovative tool for building the necessary framework for managing complex business issues.

Systems thinking can also help an organization to better see wholes and interrelationships, allowing them to pull out the important data and complex patterns that are at work in their organizational system. Through the framework of systems thinking, An organization can see how its actions shape current reality and then look beyond the usual organizational boundaries to see systemic structures that are really shaping the business. In creating a learning organization, systems thinking will enhance the quality of an organization's thinking and decision-making.

Systems thinking sounds complex, but it's really about creating wiser solutions. It helps you recognize the basic forces working behind all actions, people, and problems so you can stop wasting time repeatedly trying to fix the symptoms of the problem, and instead get to the heart of the matter and create solutions that last.

Systems thinking is a way of thinking about, and a language for describing and understanding, the forces and interrelationships that shape the behavior of systems. This discipline helps us see how to change systems more effectively, and to act more in tune with the large processes of the natural and economic worlds. Systems thinking requires a shift of mind from analytic and seeing a snapshot, to holistic and seeing the dynamics and recognizing patterns that recur again and again.

Senge's 1990 book describes 11 systems archetypes, which are patterns that recur. These archetypes serve collectively as a tool for understanding complex systems. Moreover, reinforcing and balancing feedback loops and delays are the component parts of all 11 system archetypes. The 11 archetypes are as follows:

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|--------------------------------|---|
| ① Balancing Process with Delay | ⑦ Success to the Successful |
| ② Limits to Growth | ⑧ Tragedy of the Commons |
| ③ Shifting the Burden | ⑨ Fixes that Fail (fixes that backfire) |
| ④ Eroding (Drifting) Goals | ⑩ Growth and Underinvestment(fixed) |
| ⑤ Escalation | ⑪ Growth and Underinvestment(drifting) |
| ⑥ Accidental adversaries | |

Space prohibits a description of these 11 archetypes, but we shall describe one of them to illustrate its power. Archetype 2, "Limits to Growth,"

can be easily understood in every aspect of life. All growth has limits. Patterns of growth and limits come together in various combinations. Sometimes growth dominates; sometimes limits dominate; and often the degree of dominance shifts back and forth between them. For more information, see *The Fifth Discipline Fieldbook*, pp. 113-190.

In addition to the system archetypes, Senge provides 11 laws of systems thinking as follows:

- ① Today's problems come from yesterday's "solutions."
- ② The harder you push, the harder the system pushes back.
- ③ Behavior grows better before it grows worse.
- ④ The easy way out usually leads back in.
- ⑤ The cure can be worse than the disease.
- ⑥ Faster is slower.
- ⑦ Cause and effect are not closely related in time and space.
- ⑧ Small changes can produce big results, but the areas of highest leverage are often the least obvious.
- ⑨ You can have your cake and eat it too, but not at once.
- ⑩ Dividing an elephant in half does not produce two small elephants.
- ⑪ There is no blame.

For more information, see *The Fifth Discipline*, pp. 57-67.

B. Personal Mastery

Personal mastery is learning to expand our personal capacity to create the results we most desire, and creating an organizational environment which encourages all its members to develop themselves toward the goals and purposes they choose. Its characteristics are as follows:

- entails continually clarifying what is important to us
- entails continually learning how to see current reality more clearly
- means approaching one's life as a creative work
- is grounded in competence and skills
- requires spiritual growth

The reason why this discipline is important is that "People with high levels of personal mastery are more committed. They take more initiative. They have a broader and deeper sense of responsibility in their work." (Senge, p. 143). Secondly when there is no personal mastery and vision, we see in its place group think and a continual stream of just compliance, not commitment. Thirdly, "Learning in this context does not mean acquiring more

information, but expanding the ability to produce the results we truly want in life. It is lifelong generative learning. And learning organizations are not possible unless they have people at every level who practice it." (Senge, p. 142)

Personal vision implies ultimate intrinsic desires which "is not the same as goals, objectives, or purpose; is not negative (removal of something undesirable); is not focused on means; is not relative (competitive); is a process of continually focusing and refocusing on what one truly wants." (Senge, p. 149)

Personal mastery, according to Senge, requires "creative tension," which is the gap between our vision and reality. It is not the same as emotional tension, which impedes attainment of goals in organizations, and its mastery transforms the way one views "failure." Creative tension increases the capacity for perseverance and patience, and it is founded on an accurate view of current reality as much as on a personal vision.

Personal mastery can be developed under a climate of spontaneous development, daily practice, and safety in creating personal visions, where inquiry and truth are the norm and where challenging the status quo is expected. Also, it is helpful to provide a model of personal mastery for subordinates and co-workers.

C. Mental Models

Developing mental models requires reflecting upon, continually clarifying, and improving our internal pictures of the world, and seeing how they shape our actions and decisions. The importance of mental models lies in the idea that they limit the ways we think, act and what we see. Most of our mental models are systemically flawed:

- We miss critical feedback relationships.
- We misjudge time delays.
- We focus on symptoms rather than fundamentals.
- We overlook the leverage points.
- We fail to see that changes are needed.
- We fail to see what changes are needed.
- Implemented changes are resisted, fail to succeed.

Senge quotes Bill O'Brien, the CEO of Hanover, as saying:

In the traditional authoritarian organization, the dogma was managing, organizing, and controlling. In the learning organization, the new 'dogma'

will be vision, values, and mental models. The healthy corporations will be ones which can systematize ways to bring people together to develop the best possible mental models for facing any situation at hand. (Senge, p. 181)

Senge expresses:

"Ultimately, the payoff from integrating systems thinking and mental models will be not only improving our mental models (what we think) but altering our ways of thinking: shifting from mental models dominated by events to mental models that recognize longer-term patterns of change and the underlying structures producing those patterns." (Senge, p. 204)

And Paul Stimson, as quoted by Senge, mentions:

Our first task is to get people to start to appreciate what it means to practice merit, openness, and localness in a learning organization. In traditional organizations, merit means doing what the boss wants, openness means telling the boss what he wants to hear, and localness means doing the dirty stuff that the boss doesn't want to do. So, we have a long way to go in getting people to some new understandings." (Senge, p. 183)

Some principles for working with mental models include placing a high priority on inquiry, promoting diversity of views (multiple mental models), fostering improvement of mental models at all levels of the organization, and using small groups to work with mental models.

D. Building Shared Vision

Shared vision entails building a sense of commitment in a group, by developing shared images of the future we seek to create, and the principles and guiding practices by which we hope to get there. The most important attribute of shared vision is that by working toward a shared vision, the members of a group or team actually create an alternate reality, an alternate future, and live within it. This is a group consciousness that is a form of futurism.

A shared vision changes people's relationship with a company. It is no longer "their company;" it becomes "our company." A shared vision is the first step in allowing people who mistrusted each other to begin to work together. It creates a common identity. In fact, an organization's shared sense of purpose, vision, and operating values establish the most basic level of commonality.

Shared visions compel courage so naturally that people don't even realize the extent of their courage. Courage is simply doing whatever is needed in pursuit of the vision. In 1961 U.S. President John Kennedy articulated a vision that had been emerging for many years among leaders within America's space program: to put a man on the moon by the end of the decade. This led to countless acts of courage and daring.

If the members of a group truly share their pictures of the future, if they are excited about what they are creating together, then they will act out of inner motivation and will voluntarily go out of their way to contribute. Shared vision provides the focus and energy for learning, new ways of thinking and action. It fosters commitment (energy, passion, and excitement), risk-taking, and experimentation; it boosts up long-term thinking; and it makes people more likely to expose their ways of thinking.

To build shared vision, it is helpful to:

- aid members to develop personal mastery: their personal visions, commitment to the truth, and creative tension,
- encourage people to share their personal visions (daily),
- allow time for shared visions to emerge,
- foster learning how to listen to others' dreams,
- build a culture of openness, trust, and diversity,
- encourage building a shared vision at all levels of the organization.

E. Team Learning

Team learning means transforming conversational and collective thinking skills so that people can reliably develop group intelligence and ability greater than the sum of individual members' talents. The ability to build team learning in both small and large societies is becoming one of the core requisites of post-capitalist society. Team learning requires shared vision and personal mastery. Also, it entails innovation, coordinated action, and thinking insightfully about complex issues.

The best way to develop team learning is to employ the dialogue technique. Bohm (1996) said that society is based on shared meaning, which constitutes the culture. This shared meaning is the "glue" or the "cement" that holds society together. Shared meaning is necessary for society to function properly and for it to survive. Bohm used the word "coherence" to denote the binding effect of this shared meaning.

Dialogue is deep listening and entails exploring complex issues from

many points of view to reveal the incoherence in our thoughts. Dialogue does not seek agreement. In order to foster dialogue among people, all participants must suspend (expose) their assumptions and regard one another as colleagues (safety). Moreover, hierarchy is antithetical to dialogue, and fear and judgment must be banished. Also, there must be a facilitator (but no leader).

3. New Roles for Trainers

The emerging ideal of a learning organization is one that continues to use some traditional approaches to training and adds some new ones as well. But it holds a different attitude about the source, the flow, and the value of learning. When a company calls itself a learning organization, it is committing to at least some of the following assumptions (T&D, 1991):

- Everyone can be a source of useful ideas.
- The people closest to the problem usually have the best ideas.
- Learning flows up as well as down in the organization.
- Nothing is sacred (except the governing vision and values).
- The process of open dialogue improves ideas.
- The more information people can access the better.
- New ideas are valuable.
- A mistake is simply an opportunity to learn.

Therefore, the most important new role for training is to encourage and help top management and senior HR officials to develop policies and procedures that support these assumptions. Companies that want to become learning organizations are incorporating such principles into their strategies and value statements. In a learning organization, the role of the HRD or training department is to support the forces and methods that favor widespread, spontaneous learning. This means that the training function needs to be redefined.

Chief Knowledge Officer and Chief Learning Officer might be the newest titles in such an organization. These jobs will cover a broad range of activities in areas such as research, facilitating learning processes, information coordination, and being activists to leverage business impact through building a learning organization.

Here are some more tangible suggestions for managing the learning

environment. Total quality management is needed. Front-line workers and teams are asked to collect their own quality data, run experiments, and take responsibility for making improvements. They check with internal customers and stakeholders to keep their spontaneous learning aligned with the organization's needs. Also, there should be some efforts to find out and analyze "best practices" of companies-including competitors.

A "learning laboratory," in which managers examine and test their mental models for making decisions, is one strategy. These laboratories often focus on systems dynamics and the long-term implications of making decisions based on outmoded models that fail to integrate complex points of view. The laboratory may include a computer-assisted business simulation that allows managers to study the sometimes-disastrous consequences of their decisions without sinking the real ship. These sessions can have a powerful impact by breaking down old assumptions that prevent organizational learning.

Computers and other communication technologies have had a massive impact on organizational learning at all levels. On-line databases, for example, can give almost everyone in the organization instant access to important information that allows them to solve problems as they occur. Lower-level employees no longer have to ask for help from experts or decision makers up the line. Similarly, expert systems and other smart tools distribute the wisdom of an organization, and make it possible for front-line workers to solve problems that formerly were beyond their jobs. Giving employees more access to information promotes widespread learning.

Another way that organizations learn is through empowered employees. Enlightened companies, usually driven by the need to respond rapidly to changing market conditions, tell employees to think for themselves and take action to solve problems. This is the equivalent of putting the power of organizational learning into the hands of employees. One way to do this is through teaming. More and more task forces, process-improvement teams, and self-directed work units are being given responsibility for innovations and improvements, as well as the authority to act upon what they learn.

4. Training Content and Processes

For traditional training, content is derived from the task oriented job

skills of individual workers. Learning is accomplished when workers adapt their repertoire of skills, knowledge, and behaviors to clearly delineated job tasks.

The derivation of training content for a learning organization is quite different. First, and foremost, individual workers and teams of workers must develop knowledge and skills in the five disciplines of a learning organization: systems thinking, personal mastery, mental modeling, shared visioning, and team learning. Such learning requires some adaptation, but more importantly involves increasing the ability to be creative. This is best accomplished through team learning that focuses on problems that deal with organizational strategies and policies that are meaningful to the team and its members. It requires disciplined inquiry, intensive dialogue and discussion, creative exploration of complex and subtle issues, and listening to one another intensively (Segne, p. 237).

It is paramount that trainers first learn the five disciplines themselves. Second, they must have the support and confidence of upper level managers to create learning experiences for workers and teams to cultivate the five disciplines in others. And finally, trainers must learn the skills of facilitation, their dominant role in a learning organization.

Training departments and their personnel will need to focus on the goals and visions of their organization and plan, design, and develop training interventions that are strategically aligned with them. They will need to develop expertise in the design and development of problem-based learning. In so doing, they will need to place the onus for learning on in-tact teams. The evaluation of training programs for a learning organization needs to focus on group over individual learning, process over content, and organizational impact over individual learning gains. And finally, the delivery of training must focus on the needs and expectations of the learners. This involves a transformational culture for training departments that must be purposefully planned and implemented with the full support management.

III. Conclusion

Changes in social institutions and the emergence of a world economy are bringing about a paradigm shift in the way we view and do business. More and more, business organizations which view the acquisition and advancement of knowledge as their most important resource have a competi-

tive advantage. Such organizations are developing training systems that are learning focused rather than sorting focused and customized rather than standardized. In short, they are positioning themselves to be competitive in the information age.

Training departments need to assume a new role to help their companies to become learning organizations. The new role entails partnering with upper-level managers to help them to develop the five disciplines in themselves and their subordinates.

In a world where being competitive means being in the forefront as customer needs and hard and soft technologies rapidly change, learning to adapt to change is no longer sufficient. Rather, teams of workers must energize themselves and continually renew their efforts to be creative in their thinking and problem solving. The essence of a learning organization is " ... people continually learning how to learn together (Senge p. 3)."

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