

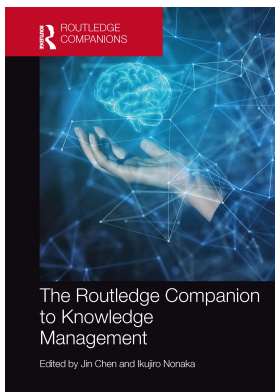
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5

KNOWLEDGE MANAGEMENT AND THE LEARNING ORGANIZATION

Rongbin WB Lee

Background

In the post-industrial or post-capital society, knowledge has become the most valuable resource and an asset of individuals, organizations, society, and nations at large. How can knowledge be nurtured and developed? What is the driving force behind the differences in the evolutionary paths of different species of life on earth? The answer lies simply in learning. According to Charles Darwin, it is not the strongest who are supposed to survive but those who have learnt to adapt themselves to the changing environment. Charles Darwin has been often misquoted for his avocation of the law of the jungle that the strongest will dominate over the weakest. Survival is nonrandom. Learning is the very process that enables an organism to change its behavioral pattern, and cope with the external changes imposed upon it. In order to survive, the speed of learning should be greater than or at least equal to the speed of change. And to be effective, learning by its very nature should be a spontaneous, dynamic, and continuous process, in response to often complex and unpredictable environmental changes.

Living organisms are dynamic and evolving, and embody the accumulation of millions of years of adaptive learning. Life is engaged in a continuous re-programming of its genetic codes. These processes are self-organizing, the outcome of self-directed choices that create a living organism. In a biological community (such as a group of plants), although the individual parts have their own autonomous behavior, the function of the whole depends on the cooperation and integration of the parts. They self-organize through complex systems of information feedback, and there is no central control or hierarchy of authority. Such an evolutionary concept of self-adaptation and self-organization has shaken our traditional view of the Newtonian science model, and has re-shaped our understanding of how our economy (as an ecology), enterprises, organizations, and society as an organism work.

What Is an Organization?

Whereas cells are the building blocks of an organism, organization is the building fabric of modern society. An understanding of its formation and operation has been the focus of study

in sociology, anthropology, organization theory, and management science. The issues that need to be addressed include:

- What is an organization?
- How should it be run?
- What is the best structure for an organization?
- How is the performance of an organization measured?
- What is an excellent organization and how should it be modeled?

Organization and management are closely related. Organization is a tool formed by a group of people to help them achieve their goals, something they desire or value. What then is management? In simple words, management is working with people and through other people to achieve the goals of an organization. The organization should be the object that is managed (not its people). An organization can only achieve its goals through effective management. An organization exists for the simple reason that people working together to produce more goods and service can be more effective and create more value than people working separately. An organization can be in many forms. Some we know about are: governments, hospitals, charity bodies, clubs, churches and temples, schools, and firms.

A firm is a special form of organization which engages in production activities and provides a kind of cooperative resource mechanism. As an organization consists of people having diverse and even sometimes conflicting interests, it was pointed out by Barnard as early as 1938 that there is a gap between the organizational perspectives pursued by the executives and individual members, so that successful organizational performance would require effective coordination of activities and the satisfaction of individual members (Barnard 1938).

In Weber's classical work, *Theory of Social and Economic Organization*, published in 1924, the "bureaucratic system" is described as the ultimate form of organization in the then newly industrialized world of the early 21st century, in which "The organization of officers follows the principle of hierarchy: that is, each lower officer is under the control and supervision of a higher one". The organization operates as a machine, and nowadays, the advances in technology are helping to make the machine run smarter and faster. Up to now, the bureaucratic model has remained alive and well in many organizations (such as in many governments and even learning institutions) which are characterized by needless hierarchies, increased specialization, and exhaustive rules and regulations.

There are two metaphors for organizations: organization as a machine or a living organism; organization (as a machine or clockwork mechanism) is composed of static and discrete elements. To understand and optimize the performance of the whole, we need to understand the parts and how they function. The study of these can be isolated from their environments without the machine itself being changed. Such a reductionist view perceives the system as deterministic and hierarchical, and is designed according to a blue print. In the organization metaphor, a system consists of interacting elements and units that cooperatively give rise to the properties and functions of the whole. The sum is greater than its parts. In contrast to classical mechanics, parts can only be understood by their relationship to the larger whole. All living systems exhibit the capability of self-organization.

Since the industrial revolution, the bureaucratic type of administrative organization (which is capable of achieving the highest degree of efficiency) has become the norm for organizing human activities. Ironically, it is from the industrial firm that many features of the bureaucratic system have been derived and tested upon after experimenting with many other forms of transformation from its top-down decision-making rule. Nevertheless, the

bureaucratic system, as described by Weber together with the scientific management model of Frederick Taylor (1913), is still deeply reflected and embedded in the management practice of many of today's organizations and firms.

Among many other objectives, companies and firms are set up to maximize their revenue and to strive for the benefits of their stakeholders. The pressure for competition in the business world has forced many firms to look for determinants of successful and profitable strategies. These give rise to the popularity of strategic studies in business schools. Michael Porter in his influential book *Competitive Strategy* has laid down a conceptual foundation for competitiveness based on the differentiation of either value added to customers or cost leadership. The strategic issues were later further expanded in an ambitious attempt to examine retrospectively what makes a nation's firms and industries competitive in the global market, which make up the theme of his next book *The Competitive Advantage of Nations* (Porter 1990). The main focus of the book was on environmental and external factors, and productivity, as key concerns to improve a firm's economic performance. However, few of the concerns regarding the internal working of the firms, such as corporate culture or human issues, were addressed.

Frederick Taylor, the father of scientific management and industrial engineering, was the first one to study how to improve work efficiency systematically by decomposing each task into individual components to determine the optimum time to complete the whole task. Taylor puts the following paragraph in his book *The Principles of Scientific Management*.

The determination of the best method of performing all of our daily acts will, in future, be the work of experts who first analyze and then accurately time while they watch the various ways of doing each piece of work and who finally know from exact knowledge – not from anyone's opinion – which method will accomplish the results with the least effort and in the quickest time.

The development of mass production techniques taken up by Henry Ford in the production of automobiles is the triumph of the Taylor approach in American management thinking, and has widespread effect on industrialization in the West. While the methodology was revolutionary in his times, his obsession with efficiency and measurement neglected individual initiative and the human aspects. The popular reengineering movement in the nineties is in essence simply a late 20th-century replica of Taylorism with the focus to simplify, remove unnecessary effort and to do more with less.

Most of these thoughts are still prevalent in most organizations as well as in the thoughts of policy makers we know today. The challenge to the rationality is echoed more deeply in Charles Handy's *The Age of Unreason* in which he pointed out that people who have thought "unconventionally" and "unreasonably" will have more a profound impact on our living, and education will have to alter radically as the way people think can only be changed by revolutionizing the way they learn (Handy 1998). These ideas challenged the rationalist ideologies of a universe with immutable laws within which all human problems could be reduced to a single answer through the application of logic and rationality, with the answer being delivered in almost exclusively financial terms.

A study carried out by de Gues (1997), a retired Royal Dutch/Shell Group Executive (who is also one of the originators of the concept of the learning organization), identifies characteristics of corporate longevity. One-third of 1970's Fortune 500 companies were found to have disappeared by 1983, and the average life span of a Fortune 500 company is less than half a century. Many such companies do not survive more than a few years. Why?

Geus challenges most of the conventional management wisdom of today and treats an organization like a living being in his book *The Living Company*. In this book, a commitment to values, people, learning, and innovation defines the living work community. He writes “Companies die because their managers focus on the economic activity of producing goods and services, and they forget that their organization’s true nature is that of a community of humans”. A successful company is one that can learn effectively. Learning is tomorrow’s capital and learning means accepting continuous change.

What Is Learning?

What is learning? This is a big question in many disciplines ranging from brain science, neuroscience, computer science, biology, and anthropology. Intelligence and learning are closely related. This is equivalent to the acquisition of environmental associations (such as an association between a sound and a predator or between food and location).

The word learning can be both a verb and a noun. As a verb, it refers to the process (i.e., learning accountancy or learning Japanese). As a noun, it refers to what the learner has learnt such as the outcome, the result, or the product of the learning process. Säljö (1979) interviewed a group of 90 people with different backgrounds, asked about their understanding of word learning, and concluded with five different perceptions. These perceptions were:

- i Learning as acquiring information or “knowing a lot”. It is a quantitative increase in knowledge.
- ii Learning as memorizing. It is storing information that can be reproduced.
- iii Learning as acquiring skills, methods, and know-how that can be retained and re-used when necessary.
- iv Learning as making sense or abstracting meaning. It involves relating parts of subject matter to each other and to the real world.
- v Learning as interpreting and understanding reality from a different perspective. It involves comprehending the world by reinterpreting knowledge.

The simple view of learning implies that knowledge is an object that can be transferred from one person to another. Learning is something external to the learner and we learn best by listening and watching. The last two conceptions (iv) and (v) are different from the first three, and look to the “internal” or personal aspect of learning, which is seen as something to increase a person’s capacity for life, looking for new meaning in the real world, or enabling us to see our life as a learning experience.

Learning theories describe ideas about how learning occurs and what factors influence learning. There are many learning theories. Among these, behaviorism, cognitivism, and constructivism are the most influential. An awareness of the fundamentals of these theories will give us a better insight into the design and practice of organizational learning. In learning, we organize our experience and sort our memories according to our hopes and desires. Psychologists learn a great deal about human motivation that goes beyond traditional intrinsic factors (personal reasons for doing things) and extrinsic factors (such as the fear of punishment). Learning can never be deep if it is based on reward and punishment as suggested in classical behaviorism. Why do human beings devote so much time and effort to the acquisition of knowledge? Two aspects of motivation for learning are important, namely, curiosity and interest as the driving force.

The meaning of learning and how to make sense of it is found to be different for different people. The word learning becomes even more complex as we try to understand how it occurs, its governing factors, as well as how and why we should learn. The unfolding of various learning theories from behaviorist, cognitivist, and constructivist is a good example in itself to demonstrate how our interpretation of the world depends much on prior knowledge, belief, culture, values, and intention of the interpreter. Your interests in reading through all the pages of this lesson are guided by various motives, depending on how you make sense of the information that is presented to you and those that you read between the lines.

All the above theoretical background is needed to fill the gap of understanding the difference between individual learning and organizational learning. No universally accepted theory of organizational learning yet exists (due to its very multi-disciplinary nature or there is really no need for one anyway). Most research work in organizational learning tends to clarify or propose new underlying frameworks to support the implementation of the learning organization concept and to highlight the processes involved and the learning methods deployed. Interestingly, the development of various learning theories from the behavioral to the constructivist school compares well with the opening up of nature's black box in the study of atoms from the days of the Greeks to the discovery of quantum mechanics. As we learn more and more about reality (be it about human behavior or an atom), it seems to be less and less "tangible". This would give us a new context to understand how a complex organization works and learns. Based on the cognitive information processing psychology, an organization consists of cognitive structures (sensory register, memory, attention, forgetting, etc.) that we use to find the equivalence in an organization that we can model accordingly, in order to study how it works. On the other hand, based on the more sophisticated model of constructivism, an organization could be viewed as a culture (no more visible than the electrons in quantum mechanics), which includes myths, stories, rituals, roles, language, and symbols associated with it. This opens up another perspective to explore organizational learning.

What Is a Learning Organization?

In the late seventies, action learning ideas evolved and the "Learning Organization" movement began to pick up speed. With the increase in social awareness of the importance of learning, attached both to society and to the economy (look up the terms learning society and learning economy), the ability of an organization to learn has become an urgent issue among business professionals and academics from various disciplines. The learning organization is an important attempt to define a new paradigm of management and represents about a decade of research within that framework (you can find the "Timeline of Learning organization Concepts" at the Dance of Change website <http://www.fieldbook.com/DoC/DOctimeline.html>, choose the link of "Timeline of Learning organization Concepts"), building on more than a decade of earlier work by many other scholars, such as Argyris and Schon (1978) who first published their book using the name "Organizational Learning". However, it is not until the publication of the internationally influential book of Peter Senge, *The Fifth Discipline: The art and practice of the learning organization*, in 1990 that the concept of the learning organization became massively popularized outside academic circles (Senge 1990). We will examine what a learning organization is and note its characteristics.

Various disciplines and schools of thought have an interest in learning organization (see Section 1.4), and this gives rise to diversity in thinking and to difficulties in defining the concept of the learning organization. So it is hard to find a definition that is universally agreed

Table 5.1 Definitions of Learning Organization (Adapted from Ojala 1995)

Type of Definition	Example	References
Philosophical	“where people continually expand their capacity to create results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspirations is set free, and where people are continually learning how to learn together”	Senge (1990)
Mechanistic	“A learning organization is an organization skilled at creating, acquiring and transferring knowledge, and modifying its behavior to reflect new knowledge and insights”	Garwin (1993)
Educational	“It is an organization that has woven a continuous and enhanced capacity to learn, adapt, and change its culture. Its values, policies, practices, systems and structures support and accelerated learning for all employees”	Bennet and O’Brien (1994)
Adaptive	“..... is the intentional action of an organization to continuously transform itself through adaptive and innovative thinking”	Dixon (1994)
Organic	“A Learning organization is like a living organism, consisting of empowered, motivated employees, living in a clearly perceived symbiosis, sharing the feeling of a common destiny and profit, striving towards jointly defined goals, anxious to use every opportunity to learn from situations, processes and competition in order to adapt harmoniously to the changes in their environment and to improve continuously their own and their company’s competitive performance”	Ojala (1994)

upon. There is neither a precise definition of learning nor agreement on how an organization can be classified as a learning organization. Ojala (1995) classified the definitions into five types, namely, philosophical, mechanistic, educational, adaptive, and organic definitions. These definitions are listed in Table 5.1 with quoted references.

There are other researchers who doubt that a definition of the learning organization can serve any purpose at all. Smith and Tosey (1999) call the learning organization concept more rhetorical than actual, more a concept to focus aspiration than some objective state. According to Solomon (1994), there is no such thing as a learning organization, but a vision that sees the world as interdependent and changing. A learning organization is always evolving. Senge recently remarked that “No one understands what a learning organization is, at least of all me anyone’s description of a learning organization is, at best, a limitation” (Abernathy 1999). Is a learning organization a myth or reality? Hammond and Wille (1994) opined that “You never arrive You can never say *we are a learning organization*”.

Apart from the difficulty in defining a learning organization, there are other concerns that challenge the validity and usefulness of the learning organization concept. These include:

- i The doubt of whether a learning organization can lead to any fruitful and measurable results.
- ii There are many people talking about the learning organization but few people know how to apply it.

- iii The performance that is expected of a learning organization is over-exaggerated.
- iv Kuchinke (1995) thinks that the concept is being oversold as a near-universal remedy for a wide variety of organizational problems, as the primary purpose of most organizations is not to acquire knowledge/learning but to produce goods and services.
- v The over-emphasis on learning on an organizational basis can be exploited by organizational authority to induce obedience and loyalty from their subordinates (Kunda 1992; Van Maanen 1998).
- vi Most of the learning taking place within an organizational setting is conducted under a stable environment (such as continuous improvement and Kaizen) and not under rapid change. The reinforcement of such an organizational culture may cause barriers to organizational changes (Fiol and Lyles 1985).
- vii The potential side effect of “superstitious learning” when individuals are forced to be in accord with the organizational objectives (Levitt and March 1988).
- viii The wrong application of past experience to plans for the future.

Despite these challenges to the learning organization concept, the number of scholars who still hold that the concept is fallacious is much fewer than those that existed 20 years ago. However, the difficulty of arriving at a precise meaning of a learning organization does not hinder the practicalities of looking for ways that can translate the concept into business practice. Typical issues include:

- The development of processes in order to obtain outcomes claimed by the achievement of a learning organization
- How the learning of individuals becomes organizational
- How to measure the performance of a learning organization

The above list can be endless. Besides those mentioned above, learning organizations can also be characterized by various attributes that can be a combination of the following:

- An attitude to support continuous learning that supports the working environment
- Communication and openness
- Inquiry and emphasis on feedback
- Self-reflection on situations
- Fostering community building
- Enhancing employees’ capacity to create
- Mutual trust and support instead of blame
- Dialogue rather than discussion
- Link individual performance with organizational performance
- Less use of defensive mechanisms and rationalization of negative events

Watkins and Marsick (1993) summarize the characteristics of a learning organization with seven Cs which include *Continuous* learning, *Collaborative* relationships, *Connectedness* among staff and between the organization and the community, *Collective* ideas to share, *Creative* spirit, *Capturing* and *Codification* of information and knowledge in a systematic manner, and *Capacity building* for lifelong learning.

According to some practitioners, learning organizations are best characterized by carrying out the five disciplines introduced by Senge (1990). These five disciplines are *personal mastery*, *mental models*, *shared vision*, *team building*, and *systems thinking*. Although Senge’s

framework is the most influential and the most widely quoted in the literature, it should be remembered that there are also many other perspectives of what a learning organization should be.

How does one identify a learning organization and that organizational learning has occurred? It would be just futile to look for comprehensive guidelines. From a more pragmatic point of view, it is more important to see if a better understanding of the following issues can give us a better insight into the concept of organizational learning and into the characteristics of learning organizations:

- What learning organization characteristics are most correlated with the high performance of an organization?
- How much do these characteristics vary across business settings?

Organizational Learning vs. Learning Organization

As with a learning organization, there is no consensus on the definition of organizational learning. “Organizational learning” is a subtle concept, as it touches upon a variety of disciplines and topics from sociology, psychology (both cognitive and behavioral), organizational development, management science, anthropology, epistemology, education theory, etc. Figure 5.1 illustrates the frequency (the top 20 results) with which the word “organizational learning” is associated with various topics and disciplines in the World Wide Web based on a Google (<http://www.google.com>) search. You can try to do this yourself. Use Google (<http://www.google.com>) or other search engines to search for the word “learning organization”, plus other keywords, for example, “learning organization” and “Fifth Discipline”. Compare with the results as shown in Figure 5.1.

The concept of organizational learning dates back to at least 40 years. Table 5.2 gives some typical definitions proposed by various researchers active in the field (listed in chronological order).

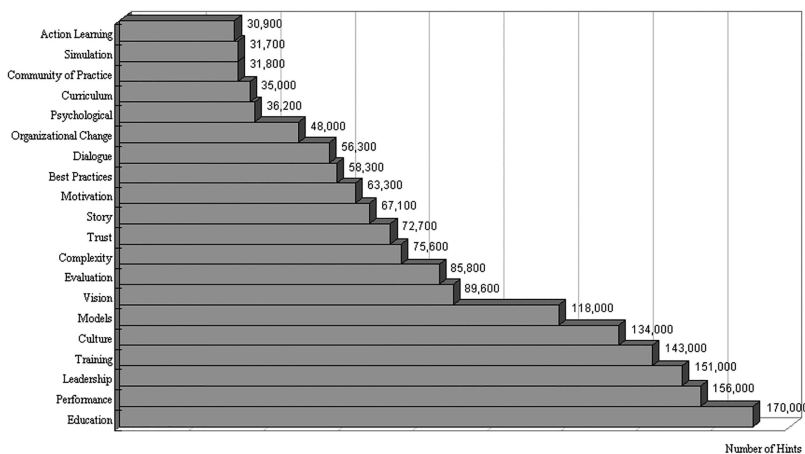


Figure 5.1 Google Search Result on “organizational learning”

Table 5.2 Definitions of organizational learning

	Year	Definition
Cyert and March	1963	The adaptation of organizational goals, attention rules, and search rules as a function of its experience.
Cangelosi and Dil	1965	A series of interactions between adaptation at the individual/subgroup and organizational levels stimulated through stress.
March and Olson	1975	Individual beliefs lead to individual action, which in turn may lead to an organizational action and a response from the environment, which may induce improved individual beliefs and the cycle then repeats over and over. Learning occurs as better beliefs produce better actions.
Argyris, C.	1977	Organizational learning is a process of detecting and correcting error.
Argyris <i>et al</i>	1978	The ability to detect and correct error, the mismatch of outcome to expectation.
Duncan and Weiss	1979	The process by which knowledge about action–outcome relationships and the effects of the environment on these relationships is developed.
Fiol and Lyles	1985	Organizational learning means the process of improving actions through better knowledge and understanding. The process by which organizations change a focal learning content, via behaviors, cognitions, or both.
De Geus	1988	The process whereby management teams change their shared mental models of their company, their markets, and their competitors.
Levitt and March	1988	The encoding of inferences from history into routines that guide behavior.
Senge	1990	The continual expansion of the organization’s capacity to create its future.
Huber	1991	The acquisition of knowledge by any of its units that it recognizes as potentially useful.
Garvi	1993	The skill of creating, acquiring, and transferring knowledge, and of modifying its behavior to reflect new knowledge and insights.
Probst and Büchel	1997	The ability of the institution as a whole to discover errors and correct them, and to change the organization’s knowledge base and values so as to generate new problem–solving skills and new capacity for action.
DiBella and Nevis	1998	The capacity or process within an organization to maintain or improve performance based on experience.
Huysman	2000	Organizational learning is the process through which an organization constructs knowledge or reconstructs existing knowledge.
García and Vañó	2002	Organizational learning can be understood as a collective phenomenon in which new knowledge is acquired by the members of an organization with the aim of settling, as well as developing, the core competences in the firm, taking individual learning as the basic starting point.

The What and How

The terms organizational learning and learning organization are often used interchangeably. For example, McGill and Slocum (1992) regard learning as a process to improve behavior through the accumulation of knowledge, insights, and experience, but do not think there is a need to differentiate much between organizational learning and the learning organization,

nor pay attention to whether the learning is conducted by individuals or by the organization (Fiol and Lyles 1985; Huber 1991).

Organizational learning and learning organization are closely related, but the focus is different. Ang and Joseph (1996) looked into the difference between organizational learning and learning organization. Organizational learning focuses on the process, whereas learning organization focuses on the structure of the organization to acquire the learning and realize its objectives. Structure refers to the task and authority relationship within which the communication, decision-making, and social interaction occur. According to Marquardt and Reynold (1994), a learning organization focuses on the “what” of an organization (i.e., its systems, characteristics, and structure to support learning), whereas organizational learning focuses on the “how” (i.e., the learning methods and processes used by an organization). Organizational learning is a concept to describe the quality of activities that take place in an organization and is concerned with organizational behavior. The learning organization is the outcome of organizational learning when it has reached a certain level.

Organizational learning is built on individual learning, but is not the sum of individual learning. It is not rare to find out that during the transfer, sharing, and accumulation of knowledge, the effect and outcome of organizational learning is often far less than the sum of the outcome of individual learning. Senge gives an impressive account of such a phenomenon in his book that whereas each individual member in a team may have an intelligence quotient of 120, the team as a whole may behave as if it has a quotient of only 62 (Senge 1990). The whole can be less than the sum of its parts.

Recalling the questions raised previously, we asked what organizational learning means. What should be the learning content? Can organizations themselves learn? If the answer is yes, then how can organizations learn? Or is it the individuals in the organizations who learn? What is the difference? Before attempting to answer these questions, the following issues need to be clarified: What is organizational knowledge?

There are two kinds of organizational knowledge, which are embedded in the organizational routines (established ways, procedures, and know-how for handling situations) or embodied in the form of an intangible organizational culture. The organizational routines usually lend themselves to codification and are often explicit in nature. They could be stored in the organizational or corporate memory. Examples of such organizational routines include technological artifacts (technical know-how, design specifications, quality standards, etc.) and those related to the implementation of organizational systems and processes, such as total quality management (TQM), performance measurement system (PMS), and continuous improvement (CI).

On the other hand, organizational culture is related to ways of thinking, presumptions, governing principles, values of the organization, etc. Such knowledge is often tacit in nature, but permeates our decisions and actions. It is at least as important, if not more important, than the explicit knowledge that can be easily codified in the organizational memory.

Summary

Learning is concerned with the behavior of living systems, humans, and organizations toward external changes. The self-adaptation and self-organization concept embedded in the complexity of science (as distinguished from our Newtonian worldview and the industrial Taylor model of the machine metaphor) has exerted a profound effect on our understanding of the learning process and the evolution of organizations. It can be seen that learning is

fundamental to the evolution of all living systems, to which an organization is no exception as it is *the most complex form of a social unit*.

The ability of an organization to learn by acquiring new knowledge, correcting its mistakes, anticipating changes, and modifying its environment is considered to be its *only sustainable competitive advantage*. How an organization can learn is of both academic and practical interest. The study of organizational learning deals with the portfolio of theories, approaches, processes, and practices that an organization can **learn about learning** in order to enhance our capacity to innovate. The outcome of this may be called an adaptive organization, intelligent organization, excellent organization, or just a learning organization. These are the focuses of this subject.

Organizational learning is multi-disciplinary in nature as seen from the diversity of professionals (business professionals, educational psychologists, consultants in human resource management, public policy makers, economists, etc.) and academics (sociologists, behavioral psychologists, anthropologists, organization strategists, systems thinkers, communication scientists, etc.) who are interested in this subject. Learning is a continuous process, and the content of a learning organization constantly evolves over a period of time.

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