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THE LEARNING PARADOX AND THE UNIVERSITY

Constantin BRATIANU[1]
PhD, University Professor, University of Economics, Bucharest, Romania

E-mail: cbratianu@yahoo.com

Abstract: *Universities are by their nature learning based organizations. They deliver knowledge to students through teaching processes. Students acquire knowledge through learning processes, from their professors and from other different knowledge resources. Since learning is a fundamental process within any university, people may consider universities as being learning organizations. This is a major error, especially in the former socialist countries. The purpose of this paper is to demonstrate that most universities are far away from being learning organizations, due to some organizational learning barriers.*

Key words: *knowledge generation; knowledge transfer; learning process; learning organization; universities*

1. The learning paradox

The paradox may be formulated as follows: *although a university is an organization based on learning processes, it is not necessarily a learning organization*. It can become a learning organization if and only if there is at least a strong integrator to assure the transition from individual learning to team and organizational learning. Also, it would be important to advance from adaptive learning to generative learning. Most universities are far from being learning organizations due to some mental and functional barriers. Identifying and evaluating these barriers would help in designing adequate solutions to transform these universities in successful learning organizations, able to compete on the new global market of higher education.

This paradox may be linked to the Albrecht's Law (Albrecht 2003, p.4): "Intelligent people, when assembled into an organization, will tend toward collective stupidity". This is not a compulsory phenomenon in any group of people. It is an optional one to the extent to which group members allow it to happen. However, it does happen frequently since it follows the *entropy* law. In order to aggregate individual knowledge and intelligences from

all the employees of a given organization one needs specific mechanisms, capable of integrating them and generating adequate synergies. In order to explain the synergy generation in a knowledge field, Karl Albrecht introduces the concept of *syntropy*: "We can define syntropy as the coming together of people, ideas, resources, systems, and leadership in such a way as to fully capitalize on the possibilities of each" (Albrecht 2003, p.42). While entropy measures the energy degradation in a natural system through increasing disorder, syntropy would denote the upgrading of organizational energy, knowledge and intelligence through increasing alignment, or integration of all resources and capabilities an organization may have. In the organizational environment, the entropy would show the natural tendency of people toward loose interaction and increase stupidity, the syntropy would show the conscious, deliberate and intelligent effort for organizational learning.

2. The learning organization

The *organization* is a social invention. It represents a systematic arrangement of people brought together to accomplish some specific objectives (Robbins and DeCenzo 2005). These objectives would have been impossible to be realized by one single man. Organizations can be companies, public institutions, professional associations, charity foundations and any such entity having a legal status and a certain mission. Thus, we use the concept of organization as a generic concept for any kind of profit-making or non-profit legal entities. More than a century ago, the study of organizations rested on the assumption that there is, or there should be, one right organization for any conceived purpose (Drucker 2001). Experience demonstrated that the pattern of the right organization has changed more than once, as business environment changed itself. The concept of organization has no absolute meaning, since an organization is only a tool for making people productive in working together. It has a relative meaning. Actually, this is reflected in the origins of the word organization, which derives from the Greek *organon*, meaning a tool or instrument. That means that an organization is not an end in itself, but an instrument conceived to perform some kind of goal oriented processes.

In any organization all activities can be grouped together into two basic processes: the production process and the management process, as shown schematically in figure 1 (Bratianu, Vasilache and Jianu 2006). The production or technological process is designed to produce the organization end results as tangible objects or services. The process of management is necessary in order to perform the first process efficiently and effectively. Efficiency means doing tasks correctly, such that products can be obtained with minimum of resources. Effectiveness means doing the right task, searching for goal attainment. Efficiency and effectiveness are interrelated concepts. The process of management can be performed through its main functions: planning, organizing, leading and controlling. It is important to have in mind this functional perspective on the internal environment of any organization, in order to understand better the meaning of the twin concepts: organizational learning and learning organization. Both concepts reflect a conscious effort which must be done within the management process, even if knowledge can be generated within the production process and the management process. In this context, the organization management acts as an integrator, having a decisive impact on the aggregation of all employees knowledge, intelligences and values, as we will demonstrate in this paper farther on.

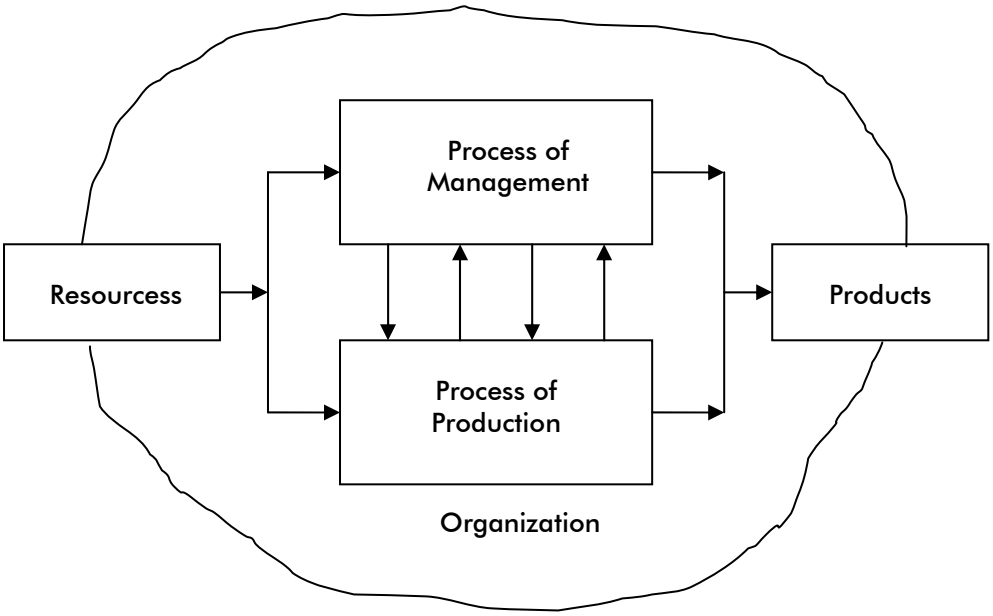

Figure 1. The organization basic functional structure

A learning organization is "an organization that is continually expanding its capacity to create its future. For such an organization, it is not enough merely to survive" (Senge 1990, p.14). In his seminal book, Peter Senge stress the fact that learning in order to adapt to the external business environment is essential for any organization, but it is not enough. Adaptive learning is a survival learning, and no organization would like to struggle all the time with surviving. *Adaptive learning* should be only the first phase of such a process, being continued with *generative learning*, the process that enhances our capacity to create. In defining the learning organization we must be able to avoid the trap of transferring human capacity of generating and processing knowledge to pure organizational structures. In essence we talk about people, structured in teams and organizations, and about their capacity of developing new and specific modalities of learning in groups. Although it looks like a natural process, in real organizational life things are different for the simple reason that management is by its own nature antientropic. Innovation and change management put forward a new perspective of a relaxed hierarchical structure, and tasks beyond the rigid job description.

Learning is one of the most powerful processes at both individual and collective levels. It is fully engaging, rewarding and enjoyable. Learning constitutes the prerequisite for knowledge generation through innovation, at both operational and managerial levels. Many researchers consider learning to become the critical issue of the twenty-first century business. The process of learning is composed of several activities, among them being more important: perception, knowledge acquiring, knowledge structuring and re-structuring through a continuous dynamics, knowledge storage, knowledge removal from the memory, and knowledge creation through a conscious effort. In all of these processes we may find both *tacit* knowledge and *explicit* knowledge. Tacit knowledge can be obtained from the direct individual experience and it is stored within the unconscious zone of the brain. Let us consider for instance a child who tries to touch a hot plate with his fingers. It hurts and it

might burn the finger skin. The child cannot understand the cause of this pain, but he acquired a new knowledge which will be used in his future behavior. This is a piece of tacit knowledge. When his mother will explain to him about the risk of touching hot plates, the child receives explicit knowledge. It is a kind of rational and explained knowledge. Later on, he will be able to find this kind of knowledge in books, to get it from school or TV. Explicit knowledge can be detached from its owner and processed at the group or organizational level. At the individual level, each concept becomes clearly defined when there are both components, i.e. the tacit and the explicit knowledge.

In his research about learning organization, Bob Garratt demonstrates that "organizations can only become simultaneously effective and efficient if there is conscious and continuous learning between three distinct groups – the leaders who direct the enterprise, the staff who deliver the product or service, and the customers or consumers" (Garratt 2001, p.IX). Thus, the learning process should not be confined only with the given organization; it should be extended over the external business environment of the company. The learning organization will have in this perspective

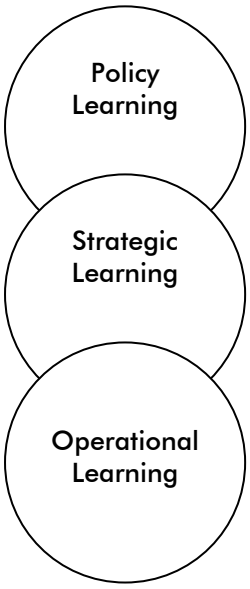

Figure 2. The Garratt learning organization model

three main cycles of learning: the operational learning cycle, the strategic learning cycle and the policy learning cycle (figure 2). Thus, organizational learning differs from the individual learning, where there is only one cycle going from practice to conceptualization and testing, through the tacit and explicit knowledge.

The *policy learning cycle* contains the organization's relationships with the external business environment. Its focus is the organization effectiveness with respect to its defined objectives and consumers satisfaction. Experience shows that the customer's or consumer's perception of organization effectiveness contributes directly to the success or failure of that organization (Garratt 2001). This perception may have two important consequences: satisfied customers will repeat their purchase from same company; satisfied customers will

be convinced more easily to pay a small price premium as they believe that the product or service is good value for money. Customers who pay a premium are likely to be profitable customers for the company, and in the same time to tell to other people about the quality of the purchased products. Big companies like Coca-Cola and General Electric introduced into their mission statements the need to generate enthusiasm for their customers. The policy learning cycle is controlled from inside by top management, people in charge with establishing company's policy. They must understand the complexity of the new unpredictable and chaotic external business environment.

The *strategic learning cycle* refers to the bridging together the policy learning cycle and the operational learning cycle. Strategic learning is component of the strategic management process of the company. As Bob Garrat explains, "Strategic learning is about monitoring the changing external world, reviewing the organization's position in these changes, making risk assessments to protect and develop enterprise, broadly deploying its scarce resources to achieve its purpose, and ensuring that there are feedback procedures in place to measure the effectiveness of any strategy being implemented" (Garrat 2001, p.8). Strategic learning cycle is projected on a long time scale of 4-5 years, consistent with the strategic management time scale and objectives.

The *operational learning cycle* is a component of the operational management. It is based on the daily activities, the time scale ranging at the most up to one year. Operational management is concerned mostly with the process of production and its efficiency. Economic rationality and short term objectives are the most obvious characteristics of the operational management. The operational learning cycle produces innovation at execution line, both technological and managerial. In conclusion, Garratt's model is composed of these three learning cycles, the strategic cycle playing the role of integrating the other two.

Chris Argyris, professor at the famous Harvard Business School, is one of the leading researchers in this field of learning organizations. His theory is based on the single-loop and double-loop learning processes, which are schematically presented in figure 3 (Argyris 1999, p.68). Single-loop learning is the inner knowledge circuit when there a situation of matching the objectives. Also, it can be used when the mismatch situation can be solved working only on the production process by changing actions. Double-loop learning intervenes when the solution of the problem cannot be obtained within the inner single-loop. It is a larger and deeper loop which requires changing one or several governing variables at the organizational level. Thus, it is necessary first to change these governing variables and only then to change the actions to be performed. These variables are not cultural values or beliefs people espouse. They are variables used by managers to control the production process. That means the double- loop allows adjustments to the production process, but not to the external business environment. By comparison with the Garratt model, the Argyris model is focused only the internal business environment, working on the production process (single-loop learning), or on both the production process and management process (double-loop learning). Single-loop learning is quite suited for the adaptive or surviving learning. Generative learning needs the second loop, or much better a third loop to parallel the third learning cycle of the Garratt model. It is important to stress the fact that *organizational learning* does happen only when the chosen solution is fully implemented. As Chris Argyris demonstrates "Learning occurs when the invented solution is actually produced. This distinction is important because it implies that discovering problems and inventing solutions are necessary, but not sufficient conditions, for organizational

learning. Organizations exists in order to act and to accomplish their intended consequences" (Argyris 1999, p.68).

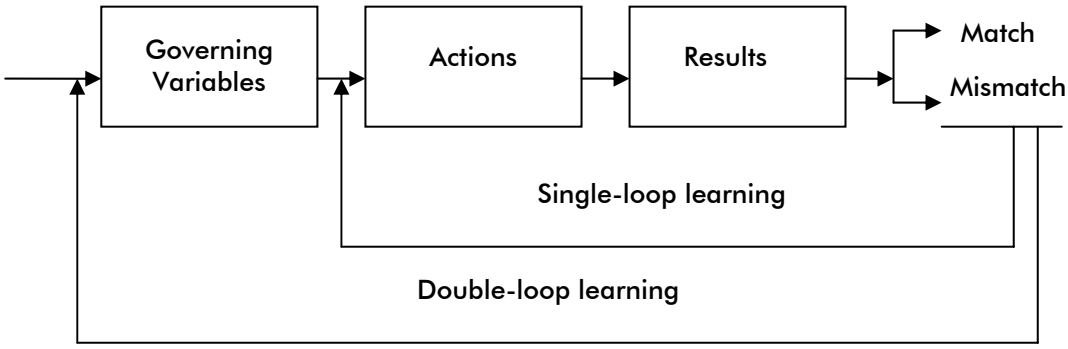

Figure 3. Single-loop and double-loop learning

3. Universities as learning organizations

For a university, figure 1 becomes very interesting since the process of production and the process of management both operates in the field of knowledge. In the industrial environment, the process of production performs in a tangible world, while the process of management performs in an intangible world. In the university internal environment, the process of production is a knowledge generation and transfer process, and the process of management deals also with knowledge. Thus, both processes perform in the world of intangibles, and the production process is actually limited by the performance capacity of the management process. In this context, the paradox may have a sense, since the production process is actually a learning process. If a certain university is going to be a *learning organization*, it is necessary that the process of management to become a learning process as well. Thus, there is a reasonable concordance with the double-loop learning shown in figure 3, and with the strategic learning cycle presented in figure 2.

A new and interesting perspective has been recently presented by Constantin Bratianu in analyzing the dynamic structure of the intellectual capital (IC), by comparison with previous static structures (Andriessen 2004; Bratianu 2007). Figure 4 shows the transformation of individual contributions of all the organization members into the organizational entities, in terms of knowledge, intelligence and values. The major role in this dynamic process is played by *integrators*. According to Constantin Bratianu,

> *"an integrator is a powerful field of forces capable of combining two or more elements into a new entity, based on interdependence and synergy. These elements may have a physical or virtual nature, and they must posses the capacity of interacting in a controlled way"* (Bratianu 2007, p.111).

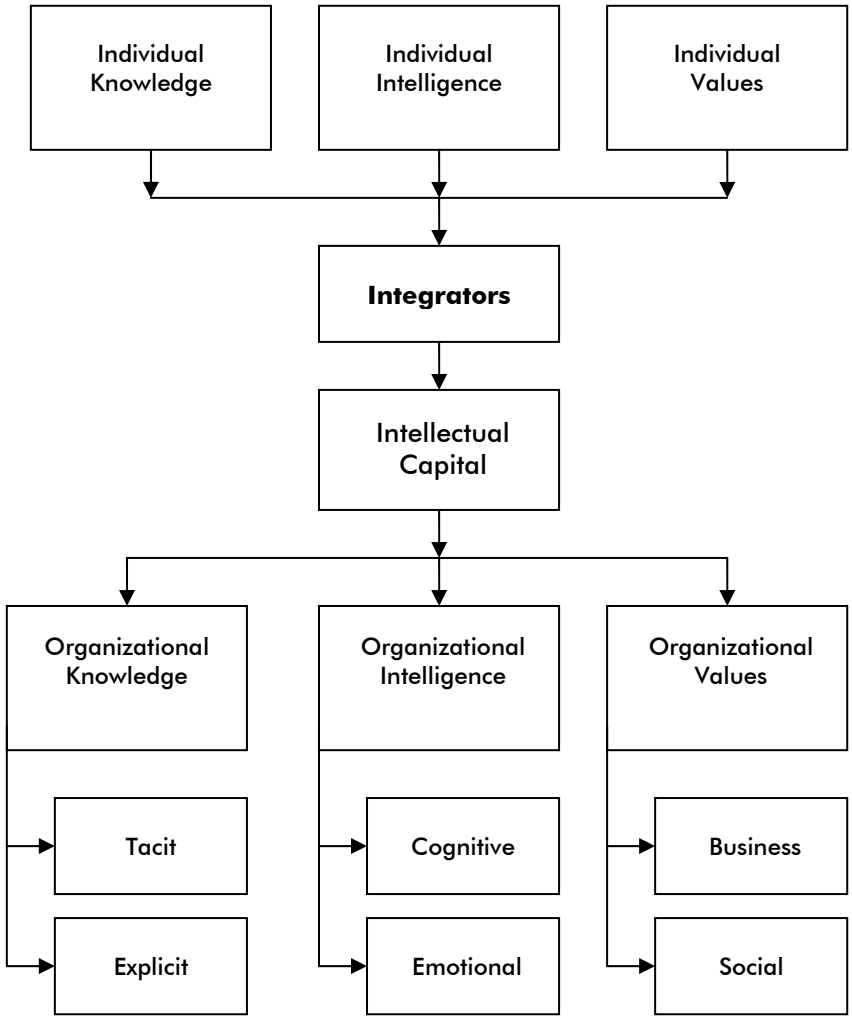

Figure 4. Integrated perspective of the organizational IC

The *interdependence* property is necessary for combining all elements into a system. The *synergy* property makes it possible to generate an extra energy or power from the working system. It makes the difference between a linear system and a nonlinear one. In the case of a linear system the output is obtained through a summation process of the individual outputs. In the case of a nonlinear system the output is larger than the sum of all individual outputs. For instance, a mechanical system made of rigid frames works in a linear regime, while a complex electrical system works in a strongly nonlinear regime. In the first case there is only interdependence and no synergy. In the second case there is both interdependence and synergy. In organizational behaviour, we can talk about linear work in groups and nonlinear work in teams. In the first case, sharing the same goal but not the same responsibility leads to interdependence and a linear behaviour. In the second case, sharing the same goal and the same responsibility leads to interdependence and synergy, which means a nonlinear behaviour. However, synergy is not a guaranteed effect. It must be obtained by an intelligent team management. We can say that this *team management* acts

as an integrator at the team level. It is important to stress the fact that we adopted in this work the concept of multiple intelligence proposed by the Harvard University professor Howard Gardner (2006).

4. Integrators for learning organizations

The production process consists of a certain technology and all associated work processes. In classical industrial companies, technology and its associated processes put people to work together in different chain sequences and assembly line. These are linear systems based on interdependence and a technological flux. People can change their places or can be replaced by others without any change in the final result, as much as their contributions are according to their job requirements. Think about an assembly line for a motorcycle, where each worker is assembling usually only one piece to the whole body. Such an assembly line is not an integrator since it is a linear system. Let us consider now a modern airplanes manufacturing company, where all processes and technologies have been interconnected based on the concurrent engineering philosophy. That means to create a powerful IT system as a core framework and to allow many processes to develop simultaneously and interactively, generating this way the synergy effect. The main role is played by the IT system which is an excellent explicit knowledge integrator. In the new economy organizations where the intangible resources became much more important than the tangible ones, the synergy effect of the IT is felt stronger, and integration power increased almost exponentially.

For a university, the IT system constitutes a strong integrator if is used for creating a virtual campus and a virtual learning environment. In this new learning environment both professors and students share the same knowledge bases and intelligent platforms to process them. For those universities having highly developed IT systems, there is a strong integrator for both knowledge and intelligence. The organizational intelligence integrates in this case not only the individual intelligences but also the human intelligence and the artificial intelligence. The resultant systems might be considered some kind of hyperbeings: „Hyper-beings are not some figment of my imagination. They are organizations of unprecedented scale, spanning nations and continents, coordinating, working around the clock, honing their ability to think efficiently and act precisely. These organizations collect information on a real-time basis, assess their plans and expectations, and modify their models as required"(Hayes-Roth 2006, p.131).

Management is by its own nature an integrator, much more powerful than technology and its associated processes. However, unlike technology which is a highly specific and rather stiff integrator, management is a generic and rather flexible integrator. It acts upon the individual knowledge transforming it into organizational knowledge, and upon the individual intelligence transforming it into organizational intelligence. The technology integrator is capable to act only upon the explicit knowledge, which is codified in a certain way. The management integrator can act upon both explicit and tacit knowledge, generating explicit organizational knowledge and tacit organizational knowledge (Andriessen 2004; Davenport and Prusak 2000; Polanyi 1983).

The management process is intimately related to the production process, such that in an old type of manufacturing plant there is an old type of industrial management. In this situation, if the technology is very close to a linear system, the management will be

predominantly linear and the synergy effect will be very small. Of course, workers are not machines but their activities are designed to be fuelled mostly by their energy and practical knowledge. The integrator will produce little organizational knowledge. On the other hand, in the new economy companies, where the technology integrator is highly nonlinear, the management must be also highly nonlinear in order to match the process requirements. The final output in this situation contains large synergy and the organizational knowledge contributes greater to the intellectual capital. However, we may find some anomalies as well.

A university is a highly nonlinear value system. If the academic management is based on linear thinking patterns, and linear decision making processes, the integration effect will be very small. I am considering especially universities from the former socialist countries, where the linear thinking and decision making is still very powerful and very inefficient. In these situations, the academic management is a poor integrator with very little synergy effects on the organizational intellectual capital (Bratianu 2005).

I am not going to open the debate concerning the overlapping meanings of management and leadership, or their definitions (Robbins and DeCenzo 2005). I am going to consider a continuum between management and leadership, with a driving force oriented from the left hand side toward the right hand side. Far away to the left I shall consider the linear management, and far to the right I shall consider leadership. Somewhere in the middle is situated the nonlinear management. The industrial era management is situated to the left, while the new economy management is situated in the middle. That means that leadership is a much stronger integrator than the new management since it acts especially on the individual intelligence and the individual core values of employees. While the management is emphasising the integration process of individual knowledge and individual intelligence, leadership is emphasising especially the integration process of individual intelligence and individual core values. Thus, it is a strong integrator with a powerful impact on the generation of organizational intellectual. Great companies have great leaders, capable to inspire all the employees with their force of vision and motivation (Welch 2005). Great companies run by leaders succeed in generating greater intellectual capital than companies run by mangers. In order to increase the organizational intellectual output it is necessary to move from the operational management toward the strategic management and leadership.

Unfortunately, in universities hardly we talk about leadership. University management remains predominantly a linear process, and most of the universities still have a huge bureaucracy. This is true especially for all universities from the former socialist countries. We may consider the case of the Romanian universities, where the academic management has been practically transformed into a pure administration. Leadership has been replaced by prominent scientific figures, like academicians, without any managerial skills. From this perspective, the actual university management is far from being a strong integrator for the learning process. The current legislation says that the department head is elected from within his department by vote. Thus, all members of a department participate in the election of its head. The dean of a faculty is elected by members of the faculty council, i.e. only by professors from within the faculty. The rector of the university is elected by members of the university senate, members who are professors at the university. No election can take into consideration candidates from outside the university. That means from election point of view, that a university is treated as a *closed system*. We know very well from theory and practice that closed systems cannot assure quality and performance in their

management due to a natural process of increasing entropy and downgrading its life. From the practice of these transition years we learned how mediocrity spread out and dominate the whole spectrum of academic management. The only way to introduce a real and a beneficial competition is *to open up* the university for elections. That means to allow to any qualified professor, from any university in this country to be eligible for being elected to an academic management position. Thus, there is a natural increase of selection basis and of chances to get out of the internal mediocrity control. Decision should be taken by a commission composed of qualified persons and not by everybody. This situation is quite normal and traditional in many countries, especially in the U.S.A., where there is a special committee for searching the best candidates from all over the world. Starting April 1st, 2004, this new mechanism has been put forward in Japan, changing completely their traditions (Bratianu 2004). This competition will have an important impact on developing leadership in our universities, a basic prerequisite for transforming them into learning organizations.

Just continuing this above idea, moving toward learning organizations I shall put forward the vision and mission statement for any organization. Vision means a projection into the future of this organization, a projection capable of a strong motivation and inspiration for all its employees. An application of this vision in terms of products to be offered and markets to be served constitutes the organization mission. Thus, the strategic mission is externally focused. This is true also for universities. However, since all the Romanian universities before 1989 have been established by the government, not private or community initiatives, they had no vision and mission statements. Only recently, by implementing the strategic management in our universities after 1999, this important integrator became visible and a necessary instrument in developing learning organizations. Great leaders know how to use this integrator in generating valuable organizational intelligence and driving forces for elaborating and implementing successful strategies. Since emotions have a strong nonlinear nature, this integrator is capable of generating much more synergy than the previous integrators acting mostly on knowledge.

Peters and Waterman were among the most convincing authors in emphasising the great importance of corporate culture in achieving excellence. As they conclude in their research of the best-run companies,

> *"The excellent companies are marked by very strong cultures, so strong that you either buy into their norms or get out. There's no halfway house for most people in the excellent companies"*(Peters and Waterman, 1982, p.77).

A strong organizational culture is a system of core values, traditions, symbols, rituals, and informal rules that spells out how people are to behave most of the time. Companies that have developed their personality by shaping values, making heroes, spelling out rites and rituals, and acknowledging the cultural network have an edge over the others. These companies have values to pass along their life, not just products and profits.

Organizational culture is a very powerful integrator since it acts especially on the individual intelligence and individual core values, generating the spirit of excellence. However, the organizational culture can produce also adverse results if its core values are based on fear and punishment, and there is a mismatch between corporate interests and individual core values. Great leaders have always understood the importance of the corporate culture and thus they contributed first in developing a strong, and stimulating culture. As an integrator, organizational culture contributes especially in building up an intellectual capital with a great potential for innovation. Also, it can play a significant role in strategic and change management, and in crafting a successful organizational behaviour.

Organizational culture transforms actually a mechanical type organization into an organic type organization, as demonstrated by Aries de Geus in his excellent works (2002). This is true also for universities, and it is proved by the fact that world class universities developed in time powerful organizational cultures. Think about Harvard University, Massachusetts Institute of Technology, and actually all the Ivy League universities from USA, Oxford University and Cambridge University from UK, Tokyo University, Kyoto University or Osaka University from Japan, and examples can continue.

5. Conclusions

Universities are by their own nature organizations of learning, where knowledge generation and knowledge transfer constitutes the production process. However they are not necessarily learning organizations, and this is an intriguing paradox. Knowledge, intelligence and cultural values coming from all individuals who are part of the academic community is aggregated at the organizational level. This aggregation can be a linear or a nonlinear one. In the first case, the university is not a learning organization since there is no synergy and no learning within the management process. In the second case, the university generates important synergies and learning becomes an encompassing process. As a learning organization, the university can adapt continuously to the external economical and social environment, and it can generate knowledge for its future development according to its vision and mission.

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[1] Constantin BRATIANU holds two PhD diplomas granted by the Georgia Institute of Technology, Atlanta Georgia, USA (1981) and by the University of Economics, Bucharest, Romania (2002). He is the author of over 40 books and university textbooks and over 200 papers published in Romanian and international scientific Journals or in Proceedings of national and international Conferences. He is currently University Professor at UNESCO Department for Business Administration and Director of the Research Center for Intellectual Capital from University of Economics, Bucharest. His main interest topics are Strategic Management, Change Management, Knowledge Management, Intellectual Capital, University Management