

Development Process Realignment of Final Course Assignment-FCA: Technologist in Human Resource Management

Alessandro Rosini, Angelo Palmisano,

Mauricio Pedro da Silva, Silvia Regina Guberovic

Corporate Governance, United Metropolitan Colleges - FMU,
São Paulo, Brazil

E-mail: alessandro.rosini@fmu.br, angelo.palmisano@fmu.br,
mauricio_psilva@ig.com.br, sguberovic@hotmail.com

Abstract: The education has approached the individual's productive market and technology contributes to this transformation. In this process, the College of Technology ENIAC - FAPI supports productive market with technological education. The case study of the subject is the Final Course Assignment- FCA, called TCC, Technology course in Human Resource Management, developed in the second semester. The methodology was field survey with former students of the course, documentary and bibliographic research. With this data, the process was contextualized proposing the inclusion of one more semester to develop the work, keeping the five-phase structure and further research. The goal was only analyze changes in the expansion of the working period of development, but also in the form of process evaluation considering the active student in the building process and construction of the theoretical and practical knowledge through initiation to scientific research.

Key words: Human resources; Ompletion of course work; Knowledge

Recebido em: 30-05-2016

Aceito em: 04-07-2016

INTRODUCTION

One of the purposes of education is to approach the individual's productive market, understanding the whole process of transformation to which this has been suffering over the years.

In this process, the technology has greatly contributed to the transformation process. People stop being seen as resources and become part of them, the society of knowledge, and intellectual capital as a competitive advantage factor for organizations to contribute to its portfolio of personal and professional skills.

According to Gil (2001, p. 24):

People management, however, is also a tendency that manifests itself more in academic world than actually in business, as the clearest expression of its existence has been given by works revisions related to Human Resource Management and courses that are being offered by specialized institutions.

The Ministry of Education and Culture focuses on the technological education directed to professionals of all levels of education and economic sectors that become able to enter the business market.

Analyzing the needs of business market and training people, the Technology College Eniac - Fapi, 30 years in the market, offers the degree in Technology in Human Resource Management lasting four semesters, total of 1660 hours.

According to the Education Project Course - PPC (. 2014, p 6) "the course is growing demand for professionals with integrated vision of the human resources subsystems in a metropolitan area of high density industrial and post-industrial".

According to IBGE - Brazilian Institute of Geography and Statistics - Data (2011), Guarulhos is the second city in Sao Paulo in population and wealth creation. According to the IBGE 2010 population is 1,221,979 people and occupies the 8th position among the 100 largest cities in terms of PIB - Gross National Product.

The mission of Technology College Eniac - FAPI in its quality policy is "Educate and Train Citizens to Succeed in Life, being competent in the business market, socially responsible and active in preserving the environment, with reference to ethics, dialogue and respect for future generations" (www.eniac.com.br).

Analyzing the transformation and communion with its mission, the institution, although not being required by the Ministry of Education and Culture, establishing in its pedagogical plan of course producing a final course Assignment - FCA, in order to bring the student to the business market.

Since its beginning in 2008, the work has undergone a series of refinements from the empirical analysis of its processes.

The Active Learning Methodologies has been discussed in the educational daily routine. According to Araujo & Sastre (2009, p. 7) "Learning Active Methodologies are the core of this perspective and the Problem-Based Learning (PBL) is one of the ways that has been adapting to this new role."

Mayo et al. (. 1993, p 227) describes:

The Problem-based learning is a teaching strategy that introduces students to significant situations and context in the real world. To the professor, the learning process

mediator competes provide resources, guidance and instruction to students as they develop their knowledge and skills in problems solving.

The assignment is done in pairs and not a random choice. It is justified by the context to the real world, so teamwork.

The five phases of research throughout the semester allow for the most often, only the bibliographical research and study the implementation of a subsystems tool of Human Resources in any organization.

The changes take place not only in the development of work which only from one semester will turn for two semesters while maintaining the five-phase structure, allowing the student to further research on the chosen theme, expansion of the development period, but also in form of assessment, which aims to make the student an active agent in the construction of research and knowledge.

Sant'anna (1995a p 27) claims that: "the evaluation will only be efficient and effective if it occurs interactively between professor and student, both going in the same direction, towards the same goals."

Clarifying the above, the objective of this work is to restructure the development process of final course assignment - TCC making it an empowering tool and construction of theoretical and practical knowledge through initiation to scientific research, by defining research lines that will direct students to specific mentors in their fields of knowledge.

Based on the facts presented, an important question is: how to make the active agent in student scientific research process?

As a secondary objective, approximate the pair scientific approach to the scientific research group of College of Technology Eniac for article publication from work in the scientific initiation magazine called Kaleidoscope.

THEORETICAL FRAMEWORK

1. Current context in which the final course assignment - FCA is developed

The College of Technology ENIAC - FAPI has been in the market for 30 years, located in Guarulhos - São Paulo. IBGE - Brazilian Institute of Geography and Statistics -Data (2011) shows that São Paulo is the second city in population and wealth creation. According to the IBGE 2010 population is 1,221,979 people, and occupies the 8th position among the 100 largest cities in terms of GDP (PIB).

Faced with this population demands, the College of Technology ENIAC - FAPI offers modular graduate courses (Bachelor's degree and Technology) and Management, Information Technology, Engineering and Industry post-graduation courses.

According to the pedagogical project of a Course- PPC (2014, p.8) "The course of Technology in Human Resource Management at College of Technology - FAPI meets the demand for professionals with integrated vision of the Human Resources subsystems, in a metropolitan region with high industrial density and post-industrial".

The object of study is the process in which it is inserted the development of Final Course Assignment - FCA of Technology in Human Resources Management higher course, held in the second half of the course according to the course curriculum, presented in Table 1.

Table 1 Curricular Course

Entrepreneurship - 1st Semester	Human Relations - 2nd Semester
<ul style="list-style-type: none"> • Applied Informatics • Management Models • Mathematics • Organization and management processes • Social and environmental policies • Corporate Communications • Entrepreneurship integration project 	<ul style="list-style-type: none"> • Attractiveness and selection • Organizational Psychology • Compensation and Benefits • People Management Competency • Citizenship and socio environmental responsibility • Project of human relations
Planning and personnel administration - 3rd semester	Maintenance and development of talents - 4th semester
<ul style="list-style-type: none"> • Personnel department Operations • Labor law and social security • Union relations and labor negotiations • Culture and organizational climate • Health and safety on work • Project planning and personnel administration 	<ul style="list-style-type: none"> • Training and Development • Strategic planning in human resources • Performance Evaluation • Economic News in people management • Corporate education and knowledge management • Final Course Assignment • Maintenance Design and development of talents • project

Source: prepared by the authors in 2015.

The technological course curriculums must be thought considering the actors involved, the student and society. The student belonging to the learning system, immersed in the four pillars of education: learning to live together, learning to learn, learning to do, learning to be. On the other hand, society and the productive system, facing all the changes arising from the competitive global market (Prado, 2006).

The curriculum course has taken into consideration these axes to contextualize and re-contextualize, making it the most suitable for the local institution and mode. In this context, the Final Course Assignment - FCA, called TCC, reports comes to the individual a point sampling with practiced in the labor market.

The Final Course Assignment - FCA is performed in pairs, in five steps over a semester, the first step being soon after the beginning of school year and the fifth stage is in the second to last half semester according to the academic calendar. There is the sixth step, called the representation (recovery), they only be forwarded the pairs which need to make subtle adjustments at assignment.

Students throughout the process did not develop the assignment in accordance with the guidelines, development rules; cultural norms and the ABNT (Brazilian Technical Standards Association) will be submitted to the Banking Examiner. Making oral presentation with visual aids and they are argued by two appointed professors of the institution.

In order to develop it, at the beginning of the semester it is disclosed through the student's portal (www.portaleniac.com.br) and college walls, the final course Assignment - FCA will be started. The students are invited to attend the opening lecture. As a whole, they are held three lectures during the semester that aims to present:

- Overview and the importance of a Final Course Assignment;
- How the assignment should be done throughout the semester;
- Who are and the role of guiding in the development process;
- Present the materials available on the student's portal;
- The phases and content to be posted at each step;
- Methodology and,
- Agreement.

In the student's portal the materials are available:

- Explanatory Manual on the production of final course assignment - FCA;
- Material lectures;
- Instructions for the double composition;
- Calendar with the dates and contents to be posted in each step;
- Framework personal attendance of the final course Assignment - FCA;
- Team of a final course Assignment - FCA;
- Places to insert the steps of final course Assignment - FCA;
- Explanatory video guidance on the production of the final course Assignment - FCA and,
- Explanatory document on "What is Plagiarism".

Students have at their disposal once a week, for three hours, classroom support professor mentor, whose responsibility is to advise on the development of the assignment and clear up any doubts about the online feedback.

Each phase sent by the student through the portal, the guiding evaluate the assignment, verifying that the requested content was sent; the methodological standards are being respected; if the development follows a logical sequence of subjects and if there is plagiarism.

Severino (. 2000, p 18) defines methodology as: an extremely useful and safe instrumental for the pregnancy of a mature attitude towards the scientific, political and philosophical problems that our university education faces; are operational tools. Whether technical or software, through which students can achieve greater depth in science, the arts or philosophy, which, after all, is the intrinsic goal of teaching and academic learning.

The papers submitted by students through the portal are called posting. The period between the posting and the return from the academic advisor takes about two weeks. The student has approximately seven calendar days to correct and new post. On average, each semester, are assessed sixty works by guiding. Table 2 shows the six stages and the contents to be developed and delivered via the portal at each step.

Table 2 Phases and Posting Content to the FCA

FCA posting phases	Content to be developed
1st step	Introduce the topic and a brief description of the duo's idea for the choice and the development of TCC.
2nd step	Develop: <ul style="list-style-type: none"> • Summary; • Introduction (purpose, context and justification); • Obligatory references. Five books that theme for the research to be developed and a book of Scientific Work Methodology must be reported. Books should be obligatorily of physical or virtual library of Eniac, which may be supplemented by other sources; • Commitment term.
3th step	Develop Chapters 1 and 2, respecting the cultural norms and ABNT (Brazilian Association of Technical Standards).
4th step	Complementary work; <ul style="list-style-type: none"> • Present references; • Complete the work; • Add the first few pages.
5th step	Present the complete work with all corrections.
6th step	Represent with the corrections indicated.

Source: prepared by the authors in 2015.

All steps have their importance; it is on the fifth step there assignment note. At this stage the guiding will:

- approve assigning grade from 6 to 10;
- disapprove assigning score from 0 to 5;
- indicate for the sixth step correction and assign score from 0 to 5 (deprecated) and from 6 to 7 approved);
- indicate to the examiner that assigns score from 0 to 5 (deprecated) and from 6 to 7 (approved).

If the pair student has not posted one of the steps, it will be disapproved or recommended for the examination board.

2. Opportunities changes that benefit stakeholders

Considering the four pillars of knowledge, it should be noted that the inter-relationship between the work market and the gym, enables the formation of multi specialized professionals. According to Prado (2006, p. 225). " you must acquire certain skills and abilities, capable of prepare future technologists to understand and analyze the process in which they operate criticizing him and, if necessary, improve it. "

The skills and expertise to management are very important and, according to Jones (2010), there are many kinds of work in an organization and the development of specializations in the work division is possible.

Developing the student the final course assignment - FCA was institutionalized in 2008 and since then has undergone series of adjustments to provide the opportunity for better learning.

As Severino says (2007a, p. 25):

The teaching / learning process in college has its differential in the way of dealing with knowledge. Here, knowledge must be acquired not through its products, but its processes. This must occur through the construction of the objects to know and not the representation of these objects. Therefore, the University, knowledge must be built by the student's active experience and not be assimilated passively, as occurs more often in didactic-pedagogic environments of basic education.

Throughout the semester, in addition to classes, students develop: Integration Project; Module Course Assignment (MCM), measuring activities, two essay proofs, a written electronic test and a portfolio. Last semester arises over an academic assignment, which is to develop the final course assignment - FCA.

When we think of the new active methodologies, we see the Problem-Based Learning (PBL). For Freire (1996, p. 31) "the student inserted into problems will be increasingly prepared for new challenges."

Berbel (1998, p. 144) emphasizes that "a true methodology is a problematic understood as a set of methods, techniques, procedures, activities or intentionally selected and arranged in each step, in accordance to the nature of problem under study, and the general conditions of the participants".

This is just a formality curricular for 70% of students, it is not meant as a fortifier in building the knowledge of their academic field. When they face the assignment as a problem they cannot reach the goal in their essence. The other 30% perceive the assignment as an opportunity to articulate and strengthen the training process. Through the presence list and observation from the second speech frequency is approximately 20% of total double, very low rate. Thus, errors are very similar in posts.

For this construction, the guiding role assumes full importance, namely that motivates and guides all students to the development of the phases shown in Table 2: Phases and posting content to the FCA. As Severino says (2007b, p. 202) "but, with a supervisor, the student will also have a personal and direct monitoring in conducting its research activities."

The time period between the first and fifth step, which goes from the theme definition to the assignment completion, is approximately 90 days.

The situation problem happens in this scenario, as detailed in Figure 1: Composition of the problem situation diagnosis.

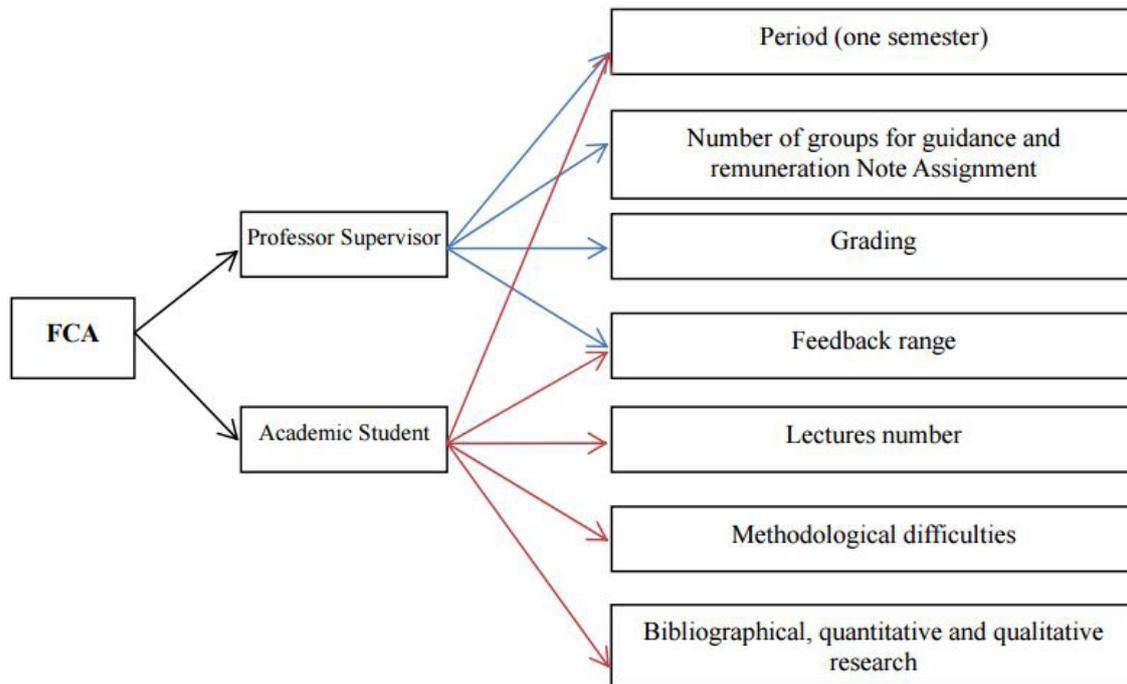


Figure 1 Composition of the Problem Situation Diagnosis

Source: prepared by the authors in 2015

SYSTEMIC THINKING IN MANAGEMENT: A LIVING ORGANIZATION

While the linear thinking is effective for the analysis of the parts of a whole, systemic thinking is important for the understanding of the interdependence of parts. Systemic thinking can be represented by the web of life, as this is its very essence. It is a contextual thinking in the concept of Capra (1997, p. 46): “systemic science shows that living systems cannot be understood by analysis. The properties of the parts are not intrinsic properties but can only be understood within the context of the larger whole.”

A system is a set of components that are related to each other. It keeps an organization and a structure. The organization defines the system’s identity and expresses its configuration through the essential features of its parts. The structure is defined by how the parts are related. The structure of the system changes during its existence, in permanent exchange of energy with the environment. It is an autopoietic system in continuous regeneration.

In the systemic thinking, the labor organizations are conceived as dynamic, not linear networks, as the mechanistic paradigm is not enough to explain them. For Capra (2002), human organizations resemble living systems. They cannot be controlled like machines, through instructions, because they react to the impositions.

Regarding the organization as a living being, there is awareness that the system is able to get self-organized , to learn, to change and evolve naturally, because its intrinsic feature is self-production. It is in constant circular retroactive movement, of own creation, seeking for sustainability in the balance of two paradoxical forces: autonomy and dependence.

The notion of human autonomy is complex and is directly related to the idea of

dependence. According to Morin (2001), the subject depends on the environment in which he or she lives, learning a language to communicate, in order to acquire knowledge and generate new knowledge. These are fundamental perceptions to build an attitude towards sustainability.

The sustainable management of democratic school is based on the experience of the dialogic principle of autonomy / dependence, through the strategic coordination of actions and mediation of interpersonal relations. The living organization, in this case, is a self-eco-organizing system with relative autonomy, as it constantly interacts with exterior, and is able to create its own determinations and purposes.

Systemic thinking is necessary for the manager, as it allows him to view school life beyond the bureaucratic routine and formal / functional relations. School dynamics may be understood as a living being, a culture in permanent construction.

Democratic management can fit in this conception, for autonomy and dependence, in dialogical movement, are complementary polarities that characterize the emancipatory process.

An articulation action can be unveiled by the manager when understanding that the own power can be used to stimulate shared decision-making, in which he takes the coordinator position. Thus, he / she can create opportunities for him / her and his / her team to experience new relations and for the educators isolation scenario to assume new settings.

Systemic thinking is opposed to linear thinking, but both are embraced by complex thinking, so that reality is understood.

COMPLEX THINKING IN MANAGEMENT: DIALOGIC RELATIONSHIP BETWEEN LINEAR THINKING AND SYSTEMIC THINKING

Morin (. 2005a, p 151) explains that all organizational relationship produces antagonism with complementarity, ie, “[...] the complementarities that are organized between the parties secrete antagonism, virtual or otherwise; . dual and complementary identities coexisting in each part is itself virtually antagonistic “As in the TAO, a figure of complexity, the female principle yin contains within it the yang masculine principle, antagonistic and dormant; in opposite relationship, the male yang principle contains latency in the female principle yin. When a polarity reaches its peak, it reveals within it the seed of its opposite.

Linear thinking which is expressed in the bureaucratic matrix and systemic thinking characterized by the vision of the whole oppose dialogically, that is, are complementary opposites, according to the interpretation of complex thinking (Morin, 2005a, 2005b, 2005c). The linear thinking and systemic thinking are always present in the same reality. The prevalence of one over the other may represent a simplistic attitude in the interpretation of reality, if they exceed, for example, in the particularization or generalization. Mariotti (. 2007, p 82) explains: “The holistic view is as reductionist as the Cartesian. One reduces to aggregation, while the other reduces by fragmentation.”

The school organization reflects in its domain all the social complexity as it is a part of this. It is a cell of the social hologram, therefore it reflects inside the dynamics of the whole of which it is part. As society, it is also a living organism that is able to get self-organized. Metabolically (Moraes, 2004) it is in permanent reorganization or regeneration, in response to all processes of disintegration. Inside, the relations are ambiguous, appearing as complementary and antagonistic. Beside the movements of change, there are conservative forces, collaboration and resistance are

forces which coexist, as well as order and disorder. A force is always in operation in response to the simplifying character of the opposite force.

Morin (2005a, p. 151) explains that all organizational relationship produces antagonism with complementarity, that is, “[...] the complementarities that are organized between the parts segregate antagonism, virtual or otherwise; the dual and complementary identity coexisting in each part is itself virtually antagonistic” As in the TAO, a symbol of complexity, the female principle yin contains within it the yang masculine principle, antagonistic and dormant; in opposite relationship, the male principle yang contains in it, in latent form, the female principle yin. When a polarity reaches its peak, it reveals within it the seed of its opposite.

With the vision of complexity on the school organization, it is possible to deal with the paradoxes that are perceived in everyday reality, which is predictable and at the same time unstable and uncertain. The school culture is ambiguous and has a contradictory character, because it has elements that stimulate innovation, as well as elements which contribute for conservation. Routine and emergent situations alternate; formal and informal relationships flow in parallel; ambiguities are natural in the game of convergence and divergence.

Understanding reality from the perspective of complexity is to realize that there is a creative tension between the polarities depending on contradictions. The opposites are fed by this contradiction and the dialogic relationship is maintained, while new properties emerge that feed, as a recursive ring, the balance game of polarities.

The school is a place of conflict, of dialogic encounters that generate creativity. The subjects have different interests and values from each other that can be negotiated through dialogue. The dialectic can be helpful in finding a consensus whenever possible. A dialogics is necessary in situations where tensions remain, and also in what concerns diversity. The words by Mariotti (2007, p. 154) complement the idea: “Being able to distinguish when employing dialectics and dialogics is a highly strategic skill.”

Conflicting situations are not only found in schools, but are part of the social fabric. They are the result of confrontation of ideas, in all social issues, especially of political nature. In fact, it is they that are reflected in the school. An example of this is the paradox in which managers are in the task of mobilizing educators for participatory and co-responsible building of a political-pedagogical project.

Thus, the management action faces a conflicting reality, explicated by De Rossi (2006), whose interests and values emanate from two distinct and contradictory forms of reasoning: the regulatory one and the emancipatory one. The linear reasoning of regulations is at the service of public policies that are governed by the market economy and are extremely concerned with quick results, while the emancipatory reasoning regards the socio-political citizenship construction as a process.

A major challenge for the school manager is to encompass the coordination of bureaucratic and educational activities in such a way they express a relationship of interdependence. In practice, there is a division of activities due to the technicist culture still prevailing in governmental schools. The educational activities tend to be under the supervision and full responsibility of the coordinators, while bureaucratic activities monopolize all the time of the school manager. This split is due to a fragmented and reductionist vision of school teams who base their actions only

in the list of regulations drawn up by school assignments. They lack a vision of the whole, a perception of the systemic reality.

Educational and bureaucratic doings are imbricated in the democratic and complex dimension. The bureaucratic tasks, called 'the means', are necessary to give support to the school routine, to the maintenance of the infrastructure, the implementation of the projects, in short, to give life to the intentionality of the formative educational process. Otherwise, if they are valued as 'core activities' they will assume a linear and instrumental character. On the other hand, the educational activities are made viable through the bureaucratic structure and legal boundaries.

Bureaucracy is also ambivalent. It has an operational and rational characteristic, as it encompasses working methods and applies impersonal rules to ensure the good work of the organization. However, this same bureaucracy can be manipulated by rationalization, running the risk of becoming an administrative blockage, to the extent that the real purpose is distorted.

Besides the bureaucratic and routine activities, there are planned actions. The former are predictable and resemble rigidity, the latter are focused on uncertainty and emerging elements. Planning is a more strategic action, as it works in the field of unpredictability and flexibility, in opposition to the program through which everything is done by automation (MORIN, 2000, 2001).

In addition, planning, in the complex and democratic dimension, is an activity resulting from collaborative movements inherent to participatory spaces. They emerge and are consolidated as leaders and their teams do not arise as mutually exclusive opposites. In this case, management is not exercised with authoritarianism, but gains recognition and legitimacy when there is respect and value of individuality and diversity. The balance between the polarities is maintained because the focus of the changes remains on the interests and meanings. Significant disturbances act naturally in organizations, perceived as self-organizing systems, without having to undertake a mechanical effort to put them in motion.

These impulses may trigger structural, unforeseen changes. Under these conditions, intuition, according to Motta (2001) shall be valued in the action of an officer, beside the analytical rationality, as it produces the global vision required to cope with ambiguities and uncertainties which are present in the emerging situations at work. What is desired is a balance between order and chaos, logical and illogical elements, rational and intuitive ones.

In modern organizations, communication of inter-subjective nature emerges at the heart of management practices, concomitant with the reduction of both, relations of subordination and use of communication only to transmit orders and guidelines.

In contemporary management, the concept of authentic communication arises in professional activity. According to Zarifian (2001, p. 165), it is "a process by which reciprocal understanding is established which leads to a shared meaning, resulting in further understanding of the actions that those involved take together or in a convergent manner." This meaning is transformed in the course of this communication according to the viewpoint exchanges and explicitation of common needs. From the reflective dimension of meaning, that is, the subjective and practical redesign, the subject directs his / her thoughts and actions, undertakes the own change in face of the events or problems that have made a pre-existing situation lose stability. The expression of that individual dimension is the mark of freedom of the subject, an attribute

of civility in modern society.

However, authentic communication is related to expressiveness, that is, in the right to freely express the personal meaning that is contained in the thinking and action, in relation to the partners of communication, as well as the power to express this sense in the initiatives concerning ideas and the doing with autonomous responsibility. Thus, the individual assumes the causality of the own actions.

In line with this, there is a dialogical relationship in the management action, that is: to assert an idea or action in terms of the management skills to direct and control, and at the same time, use authentic communication as a source of reflection on the challenges of the company and the subjective engagement of the individuals who compose it.

Thus, the interpersonal relationship based on the authoritarian model of obedience, and control gains a new meaning by the collaborative model, which values friendship, cooperation, fellowship and consensus. While the first model exemplifies the patriarchal culture and is based on distrust and desire for domain, the second is related to the matristic culture, recognize trust as the principle of interpersonal relationships.

Mariotti (2000) summarizes the essence of these two matrixes according to their characteristics. The patriarchal culture is described as an expression of linear thinking, which, in turn, is guided by the need to control nature, to encourage competitiveness, to use deterministic discourses of exclusion, based on immediacy and dichotomies such as good / bad, friend / enemy, and others.

The matristic culture, representative of complex thinking, is distinguished by understanding the human being in tune with nature, by the participation, solidarity, inclusion, as well as acceptance of reflection on paradoxes and differences.

CONCLUSION

The articulating action of School Managers is a complex undertaking, but not complicated. It turns around the key words, like: democratic management, participation, autonomy, emancipation, and others of the kind. The change is systemic, but it requires the manager's attention to the context and at the same time, the value of educators. Looking at the whole and the parts, without losing sight of the intersubjective plot. In other words, taking care of the atmosphere of the school is crucial for the members of a work team to find pleasure and meaning in their work on a self-sustaining movement, helping students develops attitudes of a sustainable world.

BIBLIOGRAPHIC REFERENCES

Hessel, Ivani Catarina Arantes Fazenda, Arnaldo José de Hoyos Guevara

- [1] Brito, R. School, Culture and Atmosphere: ambiguities in school management. PhD Theses [M]. São Paulo: Pontifical Catholic University, São Paulo, Brazil ,1998
- [2] Capra, F.. The Invisible Connections: science for sustainable life [M]. S.P. Cultrix, 2002
- [3] The Web of Life: a new scientific understanding of the living beings São Paulo: Cultrix, 1997
- [4] The Systems View of Life [M]. Cambridge Univ.Press, 2014
- [5] Chiavenato, I. Introduction to the general theory of administration. 6ª ed [M]. Rio de Janeiro: Campus, 2000
- [6] De Rossi, V. Management of the Political-Pedagogic Project: In between hearts and minds [M]. São Paulo: Moderna, 2006
- [7] Fazenda, I. Interdisciplinarity: what is the meaning [M]. São Paulo: Paulus, 2003
- [8] Hessel, A.. School Management and Technology: administrative and pedagogic aspects, a complex relation [M]. 154 f. Dissertation (Master in Educatin and Curriculum) - Pontifical Catholic University - São Paulo, São Paulo, 2004
- [9] School Managers' Development: interdisciplinar attitude in the online narratives [M]. Theses (Doutorate in Educação: Currículo) – Pontifical Catholic University – São Paulo, Brazil, 2009
- [10] Hidalgo, C. Why Information Grows: The Evolution of Order, from Atoms to Economies [M]. Basic books 2015
- [11] Hausman, R. et al. The Atlas of Economic Complexity Mapping Paths to Prosperity [EB/OL] <https://atlas.media.mit.edu/atlas>
- [12] Mariotti, H.. Complex Thinking: applied to Leadership [M]. Learning and Sustainable Development São Paulo: Atlas, 2007
- [13] The passions of the ego: complexity, politics and solidarity [M]. São Paulo: Palas Athena, 2000
- [14] Maturana, H. , Varela, F.. (1997) On Machines and the Living Beings: autopoiesis – the organization of the living being. 3ª ed. Porto Alegre: Artes Médicas, 1997
- [15] Emotions and language in education and politics [M]. Belo Horizonte: UFMG, 2002
- [16] Moraes, M. C.. (2004) Eco-systemic Thinking: education, leaning and citizenship Petrópolis [M]. Vozes, 2004
- [17] Morin, E. (2005a) The Method 1: the nature of the nature [M]. Porto Alegre: Sulina, 2005a

- [18] The Method 2: the life of the life [M].Porto Alegre: Sulina. 2005b
- [19] The Method 3: The knowledge of the knowledge. Porto Alegre: Sulina. 2005c
- [20] Introduction to complex thinking [M]. Lisboa: Instituto Piaget, 2001
- [21] The well-made mind: rethinking the reform, reforming the thinking [M]. Riode Janeiro:Bertrand Brasil, 2000
- [22] Motta, P. R.. Contemporary Management: the science and art of being a manager [M]. Rio de Janeiro: Record,2001
- [23] Zarifian, P.. Communication and subjetivity in the organizations [M]. In: DAVEL, Eduardo
- [24] Vergara, S. C. (orgs). Management with people and subjectivity [M]. São Paulo: Atlas, 2001