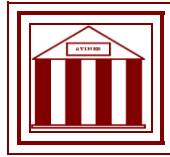


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**Self-narratives as a Complex Instrument
of Cognition/subjectivity Construction**

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Self-narratives as a Complex Instrument of Cognition/subjectivity Construction

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Abstract

From the perspective of a new paradigm- COMPLEXITY- that aims to integrate all dimensions of reality, the consideration of subjectivity in the process of cognition construction is fundamental. Through this presentation, we intend to describe a didactic process with a group of students from MD Course in Education, in a discipline called “Education and *Autopoiesis*”. In these classes, we study the paradigmatic turning point arising from the complex paradigm mainly of the cybernetic movement. Then we focus on the second phase of this movement emphasizing the role of the subject as an integrating part of the studied reality and the second order knowledge. In this sense, this subject needs to take account of their own operations speaking about themselves. These ideas emerged from the work of Heinz Von Foerster and gave origin to the complex biological theories such as “Biology of Cognition” developed by Humberto Maturana and Francisco Varela and “Complexification from noise” by Henri Atlan. These theories are complex because they do not separate cognition from subjectivity. Maturana and Varela constructed the concept of *Autopoiesis*, which basically means that the living being is closed to external information and open to change of energy, as a central axis of their theory, the concept of *Autopoiesis* that means basically that the living being are closed to external information and open to change of energy. We inferred then from these elements that they must create themselves. From these assumptions, we have been constructing a methodology that deals with the students’ self-narratives. This instrument is an autopoietic one because it provokes a re-configuration of each subject who reports about himself and not only describing an external one. We, then, analyze the written texts in the light of the assumptions evolved in the discipline such as: autopoietic process, complexification process, invention of reality and so on.

These theoretical elaborations are linked with a broad process of research (CNPq) called GAIA (Autopoietic Actions and Investigations Group) in progress at UNISC whose axis is Education and Complexity. As part of this research we are constructing the concept of *Ontoepistemogenesis* to take account of the vital and autopoietic need to express the inseparable emergency of the cognition and subjectivation process in the life of each human being (Biology of Cognition). The self-narratives constitute a very important complex instrument to this research. We count on the expertise of Dr. Clara da Costa Oliveira, an epistemologist who works at UMINHO (Universidade do Minho- Portugal) through an agreement between UNISC and UMINHO, to assist us on this work.

Keywords: *autopoiesis*, second order cybernetics, self-narratives, complexity, cognition.

Introduction

The paradigm of modernity has been giving signs of exhaustibility, mainly due to the fact that it has not taken into account the important phenomena of nature and life as well. In a complex universe of networks and flux, a paradigm based on stability, linearity, neutrality and homogeneity cannot deal with such reality. And more, the modern paradigm originated from the Newtonian-Cartesian model of Science emphasizes generalization and fragmentation as fundamental assumptions. Thus, the living subject is dead, lost in the middle of a universe without subject, without qualities. Everything in the Universe is fragmented: body, mind and spirit, internal and external world, the other and i, subject and object and so on. In this process of losses there is a lack of authorship, a non-consideration of first person speech and the denial of the human being as a historical being. The individual is not considered as the constructor of his history. The consequences of such situation are ethical, subjective, moral and epistemic. Modern human being is losing his sense of life and arousing a generalized melancholia and violence everywhere.

A new paradigm, complexity, has emerged with great strength and has radically changed the way of making Science and, consequently, the way of approaching reality. This approach is rescuing the fragmentation in doing the necessary articulations among the fragmented dimensions of the reality. We depart from this idea of putting together what was severed by modernity (Morin, 1991) in the process of teacher's formation. Our proposal, then, is to work with self-narratives, starting with the educator's internal world, who will be "learning to be his own master", according to the words of Yoga's masters. We are historical beings; we do the history in which we live in. We are beings who tell histories about our lives and we constitute ourselves through these narratives. Prigogine justifies my words through this emergent paradigm:

I think that we have to understand the historical universe. In traditional science the universe was considered to be a geometrical entity. Now we add a narrative element, we know that everything ages in the same direction: you age, I age, the rocks age. But the mechanism of ageing and the mechanism of discovery are not known. (Prigogine, 2003, p.64)

Considering these aspects of the culture of modernity and their consequences, I have decided to work with self-narratives in a group of students, so that they would be able to experiment themselves in a kind of formation in which the subject is included into the studied system. These students are educators who practice in primary level schools and also work on their master degrees in Education.

Why Complexity?

We have been facing a new paradigm, which has emerged from the old framework of modernity. This is the Complexity Paradigm. In which historical conditions has it been constituted and why is it so important? And how does it interfere with our lives? These are basic questions to be answered in order to allow us to deal with the current reality and to think our lives in midst of a chaos generated by a fragmentary and deterministic paradigm. Such paradigm has not allowed space for human agency. Modernity has killed the creative subject who was connected to a bigger cosmos. We still feel the consequences of such culture. Consequences are not only for sciences among which they have been gestated but also cognitive, ontological, ethic, esthetic and social implication of great impact. Such signs are visible through the feeling of anxiety observed in men and woman in these times and in a feeling of “non-belonging”, a general sensation of not being part of this Universe. We do not deal with cosmos as part of us, as being constructed by our own actions, in a full sense. On the contrary, most people feel as foreigners in the world, which appears to them as a meaningless one.

The Complexity Paradigm was born in the XX century, but the holistic and integrative knowledge inside it, is much older: it appeared already in the old Indian culture and in the pre-Socratic Greece. The Bhagavad-Gita contains a treaty of complexity: “If I did not do work, these worlds would perish.” [<http://www.sacred-texts.com/hin/sbg/sbg08.htm> – accessed 2014/04/09] (BG: Cap 3-20). In Heraclitus, antique Greece, we also identify the complex thought in its original strength: “All things are one” (B 50 – Shuller, 2001, p. 26). We shall return to these seminal ideas, focusing them from the point of view of the complexity assumption, as it is discussed in present times. Right now, I would like to stress what I mean by this text and how it is located historically.

Complexity: what matters for each one of us and at same time for the entire planet. From this, we may reconfigure our lives, giving it a better sense through the feeling of belonging, the emotion of being co-creators of the Universe and having the authorship of our reality. Doing so, we empower ourselves. But the pivotal part is the idea of being inventors of ourselves. It is the rescue of the creative subject who is constantly creating c himself in the flow of life. Not the subjected subject of modernity anymore, who bears the illusion of being fully conscious of himself. Being this a great illusion, as I have said, this feeling implies submission to a major power that deprive us from our freedom, so that we do not realize the fact that it is through overcoming problems that we construct ourselves, leading our knowledge of the existence of unconsciousness. Nietzsche and Freud realized that in a such a clever way that the first has influenced the second. The condition of authorship of human appears as central and organizing concepts in the quality of human autonomy in today’s current Complex Science. To Humberto Maturana and Francisco Varela, who have coined the expression “autopoiesis” as the axis of the Biology of Cognition theory, this is an organizing principle not only for living beings, hether human or not, but for all new sciences. (Maturana; Varela,

1980). To Atlan (1992) human beings are creation devices. In rescuing the creator subject we empower ourselves through the work over chaos.

Complexity is the core of reality in the sense that nothing is isolated and that everything is part of a whole that gives meaning to each part. Wise people of all times have always known this. Spiritual masters when they want to help a person suffering, act towards the learning of lost connections. In this sense, love is the most complex and vital learning. Love is not a luxury, it is biological, is vital. It is an instrument of sanity. It connects us with ourselves, with each other and with the cosmos. Maturana in his genius to show science as something alive and knowing as inseparable from living, speaks of love as a condition of health: "In fact I would say that 99% of human disease has to do with the lack of love. I am not speaking as a Christian, I do not care what the Pope says, I do not care what he said, I am speaking from Biology." (Maturana, 1991, p.23)

Knowing is profoundly complex because it is inseparable from the experience and perception of each of us, and so, we never know phenomena outside of use - we know our perception of them. That follows the importance of auto-expression, of writing of oneself.

For Morin, "*Complexus* (Latin) is what is woven together." (Morin, 1991, p.17) Modernity has created a culture of fragmentation that has been extremely painful to humans. The price we are paying for this shattering is a heavy burden loaded with suffering. As Bateson said: "I believe that the first epistemological step of Descartes - the separation of "spirit" and "matter" and the cogito - established bad assumptions and perhaps ultimately lethal to epistemology." (Bateson, 2000 p.33) The lethal can be associated with the cancellation of life in extreme abstraction and formalization of the theory and the excesses of reason. The culture of simplification, as mentioned before, works like a lock for our full humanity because it prevents us from seeing that the self is a process, that our self is a virtual one and therefore carries the existential demand to be worked on by us all the time. This culture therefore has cognitive, affective, social, political and ethical consequences that are far reaching.

Classical Epistemology works with a cognitive subject that is not part of the reality that he knows. It is as if there was a world outside and independent of the subject, which is then represented by him. It therefore involves the concept of representation. The proposed epistemology generated on second cybernetics is just the inclusion of this subject that needs to answer for his own actions in the world. This epistemology is expressed by von Foerster's words: "This task calls for an epistemology of "How we know" instead of "what we know" (von Foerster, 2003.p. 248). Even Piaget that revolutionized epistemology with a genetic posture breaking cognitive dichotomy - subject (innateness) or object (Aristotelian realism), failed to reach the self-constituting self and remains in a metaphysical position of universal epistemic subject. He advanced thus defending the idea that knowledge is neither in the subject nor into the object but in the relationship, but he could not leave the posture of a representational world outside the knower.

The proposal here is to reconcile the theory with life, the action of every human with authoring and self-constitution, life with the knowledge and bring the excitement back to its founding place of the human. It is, first of all, recognize the wisdom behind the circular aphorism from Maturana and Varela that marks this text in the medulla: "Knowing is living. Live is knowing." (Maturana, Varela, 1990, p 116.)

Modernity has gone too far in simplifying forgetting that there is life behind the formalizations. The great masters have always called attention to the basic need that humans have to unite. Connection is not an empty word but expresses a condition of being human. So to answer the question posed at the beginning of this section - Why the complexity?

We may then answer it here saying that everything in reality is of the order of complex in the sense that there are only relations and movements that cause emergencies. So, the reality is always emergent, not pre-given. And emergence is a keyword of complex thinking because things are not there simply to be captured by our instruments of knowledge but they emerge in action. This is exactly why Aristotelian instruments of identity and classificatory categories are not adequate to capture the complexity of reality. What we need are dynamic tools that grasp a reality in transit and in process of self-creation, configurational instruments that show us phenomena reconfiguring itself from chaos. With regard to relationships, Understand cognition in terms of complexity, therefore, is to understand how we constitute reality and ourselves at every moment by our action that, in turn, will configure the brain and immune processes. In other words, we know with the body and brain as we give meaning to our actions constituting, at every step, our identity.

Self-Narratives and Self-Constitution: the Complex Issue of Teachers' Formation

In view of the new issues that have arisen in the science of complexity, the formation of an educator cannot be separated from his work on himself. I will get in Nietzsche inspiration for such a task. The author of that quote below expresses this sentiment well:

There would it be, then, that rather than report "an experience of a life lived," writing is a chance to live - and constitute us - as experience? Could it be that, rather than being subject to "express ourselves" in writing, it is the experience of writing that makes us? Are we not making us what we are, writing, more than writing what we've become? (Cragolini, 200., p 36)

We started with self-experimentation practices, according to the theoretical assumptions of complexity, pertaining to the organization of the course disciplines and to the syllabus of the Master in Education Course. This work basically involves adopting complex organizing principles because it works

with self-awareness, integrating elements of different dimensions of reality and abductive thinking¹. So we adopt the self-narratives. This work has been repeated in recent years in different classes of the course. What we have seen, with the systematic study of the emerging elements in auto-narrative students is a process of significant and growing complexity. We understand the process of complexification as the effects of those mechanisms of self-constitution with which the subjects that self-narrate are increasing their conditions to deal with themselves and others, making more relationships between different aspects of everyday life, at the same time affecting them and, especially having more autonomy assuming the role of authors of their own life. Consequently, the fact of thinking about their own learning generates a reconfiguration of the life of each subject on a different level of complexity.

For Oscar Gonçalves, a scholar of self-narratives, the practice of narrating itself is closely related to the complexification since it corroborates the process of producing a more complex subjectivity. In this sense, the author employs the term autocomplexification. His words help us to extend this understanding to this effect:

A narrative existence, (...) is illustrated by the discursive multiplicity, for its thematic diversity and flexibility of its contents. Only a creative attitude of this kind enables a productive adaptation to a world characterized he also, by the multiplicity. A narrative existence rich in multiplicity is a narrative where individuals find a variety of possibilities for themselves, so starring in various topics. It is precisely this narrative multiplicity that characterizes the high levels of self-complexification. (Gonçalves, 2002 p.35).

There seems to be a return to the wisdom of a subject protagonist or one subject author as a result of the opening of the complex science for indeterminacy, to nonlinearity and autopoiesis. Echeverría, in a perspective very similar to mine, reflects very insightfully around this humanizing process of language:

A major contribution of the ontology of language is the competence that it offers to people to invent and regenerate a sense in their lives. The ontology of language confronts us with the fact that we cannot always expect that life generate, by itself, what we feel we require to live it. But at the same time shows us how we generate meaning through language: through permanent invention of reports and through actions that allows us to transform ourselves as people and transform our world. The ontology of language allows us to make us

¹Abductive thinking is beyond deductive thinking. This part from the general to the particular and inference pre-exists in the premises. But it is also beyond the inductive thought that makes the opposite way: from the particular to the general, confirming something that already exists in the experiment. The abductive thinking is a way of thinking characteristic of complexity because it permits isomorphism between seemingly very different aspects of reality.

fully responsible for our lives. Allows us to choose actions that will lead us to convert ourselves that we'd be chosen. It is a tool of fundamental importance in the design of our lives, of us and of the world (Echeverria 2006, p.66).

We raise our level of awareness through the stories we tell about ourselves. When thinking about visited paths we are going complexifying us. Larrosa, with his words, reinforces what I have said: "the meaning of what we are depends on the stories we tell and the ones we tell to ourselves that [...], in particular the narrative constructions in which each of us is, at the same time, the author, the narrator and main character "(1994, p.48).

A mark of modernity is the metanarratives with the consequent deletion of the subject-author. Piaget himself, as mentioned above, works with the idea of a generic epistemic subject, which still puts him in the context of modern culture. Underlying this alleged neutrality is a whole epistemology, a set of perceptions and the idea of separation between feeling, narrating and thinking. This epistemology is not concerned with being as it is not linked to an ontology, keeping fixed, petrified in the often obsessive concern to find correct matches for reality.

In this situation, the body itself is out of the narrative, but nobody knows what the body is able to do, as Espinosa suggests (1983). Such oblivion of the subject who tells stories about himself and talks to others in order to perceive himself as becoming has been very significant for the construction of modern subjectivity up to present days.

In times of complexity, being the observer placed as part of the observed reality and its constitution, we refer now to first-person methodologies. It is this inner look the only one which will be capable to know what is going on in the narrator's soul and it does not depend on someone else's experience, someone who has not undergone such experience (Varela et alii, 1999). Speaking in the first person is auto formation and no one, absolutely no one, can be constructed by flesh, mind and soul of another. Fortunately, the discourse of neutrality and impersonality is causing major reactions in science in general and education in particular. Educational research has turned attention to the life stories and first-person accounts. Self-experimentation, so important in autopoietic terms and perceptions that come of it, are expressed more effectively in first-person accounts. The accounts from third parties are always someone who is outside the system and who has not lived the experience. Among the voices being raised against it are those situated in phenomenology. In this philosophical position, we see the rescue of the experience for the individuals to think about their effective action in their integration process in the world. The philosophy of modernity never realized this situation because it was fixed in the internal mechanisms of automatic representation of the world within the subject.

Writing constitutes us in our self-experimentation process. In addition to the expression of feelings and emotions, self-narratives will constitute us as subjectivities and as cognitive subjects. Writing is not easy because in the act

of writing, in the same action to account in graphical form our difficulties we learn to deal with them inventing new ways of being. In this sense, writing is not only constitutional but also an important therapeutic dimension. Nietzsche recounts with power and emotion the writing exercise and its relation to the administration of their suffering (Nietzsche, 1983).

Consistent with the complex methodology, we clarify that we do not work with categories of analysis, since they refer to an inflexibility of reality subject to the strict rules of Aristotelian classifications and categorizations. Our choice is to work with markers, which we understand as temporary stabilization of meanings and domains of knowledge revealing the outcome the dynamic flow of a reality always in transit. As already announced at the beginning of this article, the important thing is learning to live in the stream. Thus, we have selected for the present study the markers "complexification" and "autopoietic perception."

From this point, we have started to treat the cognitive-affective emergencies occurring in a learning environment full of noise, built with the intention of triggering self-organizing processes through the personal experiences of each student (educator training / participant of a group and a research project) with the practice of auto-narratives. The selection of fragments written by these students was chosen based on the criteria of identifying self-organizing patterns and complexification that emerged from self-narratives. As a backdrop, we have highlighted the obvious process of constituting themselves through language, which has in the life of each one of us a cognitive / ontological role. Finally, it is worth pointing out, that we do not present here a further reflection, working with all principles and theoretical support used in our research. We are herewith identifying only those considered most relevant for the limits of an article.

Subject 1

"First day of school, a friendly crowd, nice people, great weather, however, I am in complete despair. Emptiness comes over me; it seems that I know nothing. As I begin to understand the complexity theory, all start to seem complex to me now and the feeling is that I think I'm separating from myself.

For the second day of class, we had the task of reading: . . . "A gentlemanly art of Zen archer" by Eugen Herrigel and I was intrigued by the title. What has it to do with the discipline? Everthing. I realized I was just rationalizing a lot about the things that must be felt, wanted noticeable results, wanted to find answers to my anxieties. Reading this book helped me significantly: learning trough our body is the proposition we cannot assimilate only with our eyes and ears, it needs to be lived, understood through physical training, and breathing is essential in this process".

Subject 2

"I had to understand that human beings have not landed on this world coming from an outer planet, but they have emerged through cosmic movement in a self – constitution process. This was extremely difficult due to my Cartesian concepts. What called my attention was the fact that all artifices, techniques and arts, that is, culture are in general part of an emergent autopoietic process, always in flow."

Subject 3

"As Ortega y Gasset puts it:" ... man begins when technique begins..." made me think if we completely depend on a technique? Or do we depend on our self-manufacturing?"

Again, we understand that what emerges from this narrative is the consciousness of its autopoiesis, the perception of self-construction and the work that it implies to oneself. In the same sense, it is a complex thought, because technique does not separate the mechanisms of self-production.

Subject 4

"I'm not an observer of my own life."

Again, capturing the idea that observers are involved and the notion of authorship pointing at autopoiesis. This thought has shaped an attitude of a non-representation life. The representation, that is, the idea of a world external to us, which is constructed independently from our actions and thoughts, is deeply ingrained in our modern culture that has been, as I said, limiting our self-constitution.

Subject 5

"We look outside ourselves for what we cannot find in ourselves."

Here, the emphasis is how we make our perception of what it means to live in the stream that leads to the complexification and autopoietic perception. That is, a consistent development of non-representation and a hint of self-encounter.

So with all the various narrative fragments show us a clear process of complexification marked by the way of dealing with emergencies, with abductive ability to invent metaphors about living and self-perception of change in levels of complexification.

Perspectives

Not concluding but thinking in the possibilities of overture of new ways of educational praxis I emphasize the question of inseparability to be/to know that is our central object of research in the research group to which we belong To

express this complex phenomenon of living we have coined the concept of “*ontoepistemogenesis*”, aiming to approach the human being in an articulate way, integrating all dimensions of living. We have theorized in the group about this concept and socialized the fruit of these theories through articles and presentations at events. The most important goal of auto-narratives is the perception of inseparability.

One of the first inferences we can make about the described narratives is the implication of another level of logical thinking - abduction, previously mentioned, which acts by integrating psychological and cognitive dimensions and triggering the action that has emerged in the form of self-proposition of life alternatives and invention of new meanings. All this constitutes an emergent process of complexification of subjects and narrators in the perception that we are the authors of our lives in the sense of autonomy suggested by the theory of Autopoiesis (Maturana, Varela, 1980). For such feelings, emotions and perceptions emerge; we teachers seek to create in our course a challenging environment for students where they can become themselves through authorship. Through becoming, our lives will be shaped through our own actions, thoughts and habits, since we were not born ready. And autopoietically, we need to build ourselves in the flow of life while building cognition. A powerful tool for creation of knowledge / reality is narrative. We are beings of language. The human being, as Maturana always says, is constituted in the language. And, in language, narrative is a powerful tool for building up ourselves insofar as it is a complex instrument that leads subjects to perceive the emergence of knowing and being in an inextricable way. We are what we narrate and, in doing so, we complexify ourselves towards greater autonomy and thus our own authors. Reflections by Connely and Candinin:

The main reason for the use of narrative in educational research is that humans are storytellers organisms that, individually and socially, lives reported lives. The study of narrative, therefore, is the study of the way in which we humans experience the world (1995, p. 11).

The themes proposed in the discipline have been being articulated in a complex manner with the subjectivation of students, so that cognition and subjectivation in an inseparable process show the presence of a circular logic, breaking the linearity of cause and effect.

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