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DIALOGUE OF KNOWLEDGE IN THE PEDAGOGY OF COMPLEXITY OF A POSTMODERN CULTURE

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Abstract

When we reflect on multiculturalism, we quotidianly see how the encounters and disencounters among different cultures, macroeconomics, international policies, advances and transformations, reduce space to the noble intention of education, leaving behind the protagonists of the pedagogical fact. Under that view, it is necessary to rethink about a dialogue of knowledge in the pedagogy of complexity that reveals the basic elements of a postmodern culture. While students belong to a postmodern era, curricula and educational models have remained into the modernity, which exposes a theoretical-practical distancing that leads to showing signs of weakness, the epistemic has resurged and the ontological should not be left aside. Hence, there must be cohesion and concreteness in the dialogue of knowledge, since it is observed with concern that the classrooms are being left empty in many nations of Latin America. This research, from the qualitative paradigm focused on the method of complementarity considers that it is necessary to make the "understanding of cultural texts from the analysis and interpretation of speech contracts". Therefore, some methodological resources monitored by pedagogical observatories that aim to attract students and value the teacher's vocation are considered; undoubtedly, the task is not easy, you have to win wills and actions that comprehend and understand that the reality and the social framework have changed investing in education to improve their living conditions.

Keywords: Complexity, dialogue of knowledge, methodological resources, pedagogy, postmodernity.

1. Introduction

In such a complex world, immersed in uncertainty, we observe that multiculturalisms have taken over the different scenarios that make up the social framework, cultural encounters and disencounters and world policies, and macroeconomies are impregnated in the development of the human being; there are moments that sometimes escape from the human mind about how to define them. It is perhaps a time of reflection and resurgence. Society navigates in a sea of changes, transformations and technological advances that in one way or another contribute or affect the development and progress of nations; for many intellectuals, it refers to the postmodern age and to which education is no stranger, understanding that "education is first of all a human process, made by mankind upon mankind and that is inherent to the mankind itself, to such an extent that we can affirm that, in every human community, throughout the ages, there have been processes and actions that can be considered as educational.." (Colom & Núñez, 2001; Florez, 2008, p.53). Indeed, education, considered and seen as one of the social actions capable of transforming the world, appears perhaps as a sector where internal and external forces of socio-educational systems converge that at all times seek to train and prepare a population that has in its roots a progress and social welfare that allow the advance of people; for no one is a secret that many other sectors such as technology are taking away space and value to the education and that the great protagonists, teachers and students, face a sea of uncertainty where the educational level has been set aside. Since, it is intended that educational institutions be constituted in: "workshops of men and women who love work, who are active, with generous initiatives, citizens jealous of their freedoms, but capable to discipline themselves to collectively serve fair causes" (Pérez, 1994; Florez, 2008, p.55).

Hence, the purpose of this research is focused on rethinking of a dialogue of knowledge around the pedagogy of complexity that allows to reveal the basic elements of a postmodern culture, by finding support on methodological resources monitored by pedagogic observatories that contribute to attract students and to recognize teachers' actions to reduce the speed of the vertiginous race that does not want to give way to the resurgence of the educational action that only has in its essence, to train and educate populations for a better world. There is an element that arises with the mission of counteracting importance to educational models, in some occasions by a decontextualized praxis or in its defect by ideological interests of those who direct the productive apparatuses of the different nations and in spite of, according to the UNESCO (2013): "in average, the countries of Latin America and The Caribbean increased the level of public funding on education as a percentage of GDP, going from 4.6% in 2000 to 5.2% in 2013; however, this phenomenon is more due to an expansion of the fiscal spending than to a greater prioritization of education within public spending" (p.19), what leads to affirming that investment in education is performed to cover needs but not to improve the quality of processes and show successful results in terms of student performance.

The theoretical contribution in reference refers to a brief introduction where the research intentions are evidenced; in second instance, the problematic nodes of the research are shown, accompanied by the lines of action and intention, giving way to the justification and a state of the art conformed by the background and theoretical foundations that converge in the methodological referents, in this particular case centered on the qualitative paradigm supported by the method of ethnographic complementarity; where results of relevant importance for the pedagogical processes are evident, opening the opportunity to new ways of approaching the educational process framed in a dialogue of knowledge, that at all times seeks

educating and training men and women who, in the future, will be responsible for holding the reins of a society that demands new models and strategies that ensure social welfare for the population.

2.   Problem Statement

Every research project generates its theoretical derivations from the state of art supported on epistemological foundations allowing to create the basis to build methodological resources monitored by pedagogic observatories, whose noble mission is to attract students and recognize teachers' vocation; then, it is pertinent to point out that within the theoretical framework, there are some research contributions offered by Kagelmacher (2011), who performed a research according to "Educational Values in Postmodernity: A Proposal from the Philosophy of Education" by Octavi Fullat; in that work, it was possible to demonstrate that is necessary to re-define educational models and to re-adapt them to what society requires. On this matter, Lipovetsky (1990) states that "every behavior can live together without being excluded, everything can be chosen at pleasure, the most operative as the most exotic, the old as the new, a simple and ecological life as a hyper-sophisticated life, in a time devitalized without stable reference or major coordinate" (p.41). This drives to reinforce the dialogue of knowledge on the pedagogy of complexity as it may be a departure point to rethink and redefine the art of teaching in times of extreme changes. Thus, four paradigms appear: traditional, modern, complex (complementarity and trans-complexity) and technocratic; these four models include the theoretical foundation the theoretical foundation of what is intended to be implemented by establishing a guideline to be applied in various educational institutions that currently have great challenges such as educating and training in times of change and uncertainty.

Education has turned into a mandatory topic for State policies of any country or nation, including a whole system integrated by the following elements: infrastructure, programs, curriculum, among others. These elements have always been united to offer the basic postulates from which people can benefit to be trained and qualified in the classrooms of every single educational institution, throughout initial education, elementary school, high school and college. Nevertheless, some aspects currently, between theory and praxis, are long way off the ones from the others. Thus, it is worth to take into consideration what Motta (2002) says in this regard: "one of the problems that the current global education domain undergoes is the abyss arising between the existing values and the institutional political abilities to create collective reflection spaces and the reality of a planetary life in mutation" (p.45). Based on such statements, it is possible to ensure that education absorbs the whole heap of aspects reflected on society, politics, culture and technology, among others, that might turn into a weakness for education and learning processes. The education is immersed in this panorama which numbers and data corresponding to the last years are cited by UNESCO (2013) on having mentioned SERCE-2006 (UNESCO, 2013), who also indicated: on average, in Latin American countries, one of every two students on third grade in mathematics, and one of every three third-grade students in reading, had not reached the performance level II, considered as a crucial stage for basic achievement.

In fact, it is observed with concern that classrooms of many universities in Latin America are currently remaining empty. As an example, in Venezuela, where because of multiple bitter experiences, students have left their studies, it is not profitable for the population to study and prepare for a future that

is uncertain. It is terrible to observe that the educational models of several nations obey the interests and ideologies of rulers in power. Despite insisting on forming, training and qualifying citizens for the moment, education is not going to anywhere so the race is being lost. The educational models have been conceived for the 20th century and has not been yet transformed to be implemented in the 21st. When extrapolating the different problems that educational models face, it is possible to consider that they are similar at any geographical latitude. It seems that the same mistakes have been committed once again for when comparing one nation to another, it is observed that the same schemes are repeated and is easily noticed that most of nations allocate the lowest budget to education, even if fiscal budget and the population have increased. Having said that, in the image and likeliness of other countries that have a high educational score, and therefore welfare and considerable investing, this kind of goals are achieved through education.

On the other hand, it is clearly understood according to De Alba (1998) that "education is a complex process of mutual affectation, in which cultural elements (symbols or texts, depending on how they may be seen) are produced and reproduced through cultural contact" (p.162). This reveals a conceptualization adjusted to the distinct aspects currently arising, which can be proved on what was pointed out during the World Education Forum carried out in the Republic of Korea, which main goal to be achieved was: "to guarantee an inclusive, equitable and high-qualified education, as well as to promote life-long learning opportunities for everyone". It is undoubtedly the time to rethink of an educational model with methodological resources that can assist a community surrounded by postmodernity.

3. Research Questions

In fact, some problematic nodes come out from which it is possible to have the following question: How to contribute to the resurgence of an education in accordance with the current social dynamics? Without any fear of mistake, the answers could be multiple. Nonetheless, it is worth to make a pause and wonder: how could pedagogy of complexity offer basic elements for a postmodern cultural education? Perhaps, many other questions might be asked, but Giroux (1994) points out:

> Educators and cultural critics need to bear in mind the effect of postmodern emerging conditions upon the current generation of young people, that appears as a prisoner of all the vicissitudes imposed by the new economic change along with its legacy of hope lessening, and additionally, a world of schizoid images proliferating in public spaces and a growing fragmentation, that is based on uncertainty and the randomness that substitutes a daily postmodern life by another one". (p.278)

4. Purpose of the Study

Research development leads to rethink of a dialogue of knowledge on the pedagogy of complexity that allows to reveal the basic elements of a postmodern culture by means of methodological resources monitored by pedagogical observatories on the purpose of attracting students and recognizing teachers' vocation in a world of uncertainty and constant changes. The goal is to get an epistemological base for an educative model with an emphasis on a postmodern culture, along with innovative and proactive methodological resources based on advances and transformations that are quotidianly lived.

5. Research Methods

This research project was developed under the precepts of the qualitative research paradigm, understanding that Strauss and Corbin (1998) indicate: "*qualitative research in any type of research that produces findings which are not possible to get by means of statistical procedures or other quantification means*" (p.12). This is how the present research was approached and framed in a qualitative setting supported by the principle of ethnographic complementarity that is interested in revealing multiple factors focused on a social transformation. The research scenario were two educational institutions located on the border of the State of Táchira, Venezuela, and the Department of Norte de Santander, Colombia in Cucuta. In Venezuela, the following institution was studied: The Bolivarian Educational Unit Tres Esquinas from the municipality of Bolivar, located to the side of the main road, specifically 20 minutes away of the Colombian border. In Colombia, the following institution was studied: the Educational Institution La Frontera in Villa del Rosario, Colombia. The project was conducted with seven key informants of each institution for a total of fourteen, plus an expert's opinion, so in total, fifteen key informants were recruited for this project. The data collection technique was an in-depth interview (composed of 11 questions asked to teachers (3 to each one), parents (2 to each one), representatives (2 to each one) and students (2 to each one), where around 5 categories were taken into consideration: contextual and quotidian knowledge, pedagogical fact, curricular models, cultural heritage and lifestyles. However, other categories with less frequency of response emerged that must be mentioned: professions and occupations, economy and social context. Likewise, it is important to indicate that the information processing was supported on information triangulation and ATLAS.ti.

6. Findings

Once the information was gathered on the scenarios: Bolivarian Educational Unit Tres Esquinas (Venezuela) and the Educational Institution La Frontera in Villa del Rosario (Colombia), findings were stated. Firstly, the information supplied by the created groups (teachers, parents, representatives and students) was contrasted, which allowed information triangulation, upload and processing through ATLAS.ti, where very important semantic networks emerged. The results are shown in Table 01.

Table 01. Gathered information by categories

Categories	Features	Interpretation
Daily and contextual knowledge	Those are defined as experiences and knowledge proper to a community that students handle in the classroom.	In both institutions, it is possible to observe a very proper and specific knowledge on which teachers sometimes must lean on because it is observed that young people from the Venezuelan school have knowledge on certain aspects such as medicinal plants, while young people from the Colombian institution do not know such subjects. Likewise, it is observed that students have a limited access to technology at school, while the students from a Colombian institution do have a better access to technology. That is translated into quotidian knowledge on which the teacher sometimes must lean on
Pedagogical fact	A moment that starts in the	Through a comparison, it was observed that teachers from the Venezuelan institution rarely count on teaching resources,

	educational process at planning, followed by didactic stages (start, development and closure), and ends with the assessment	didactic material and technological material (despite the presence of laptops that are currently outdated and have no Internet access). On the other hand, teachers from the Colombian institution do have both materials and resources; for example: teachers benefit of video beams and high-end computers.
Curricular models.	Those are defined as the official framework on which the teacher is guided to administrate daily class activities.	In this category, it was possible to prove that there is a similarity in the pedagogical models. In both nations, work is carried out by means of project-based planning and constructivism arises as a teaching theory, which indicates that there is similarity in the teaching processes.
Cultural heritage	Every community and institution possess distinct cultures, above all in different countries.	Considering culture, there is a quite wide distance between beliefs and behaviors. Venezuelan young people are very restricted nowadays; only what they watch on TV can make them culturally change. In addition, those who can be abroad come back and bring new styles, which is occasionally translated into misbehavior, and even promote inappropriate social development conducts, such as: teenage pregnancy, alcoholism, prostitution and drug addiction. On the contrary, Colombian students are linked to many aspects of educative life and the institution is responsible of guiding them to tackle cultural dangers that might emerge. As well, it was stated that these students are less vulnerable than the Venezuelan ones.
Lifestyles	Lifestyles include how people live at home, the way they dress, act and perform in society.	Considering this category, it was possible to prove that lifestyles also influence the way students behave in society and their academic performance. It was also possible to discover that the older Venezuelan teenage students do not want to study as they are always struggling to survive by working in the informal economy; this has caused classrooms to be empty. Such a situation is also evidenced in Venezuelan universities. On the other hand, Colombian students do not quit and skip classes; they are always thinking of being trained to get a decent job.
Expert's contribution:It is important to indicate that there is currently a strong discrepancy between what one must be and what is currently contemplated. In the case of Venezuela, it is observed with concern that institutions are running out of students, who are seeking to survive and maintain themselves. Consequently, they are never concerned on studying and on having a good academic record. In addition, those students are highly focused on leaving their country. Meanwhile, Colombian students are not thinking of migrating nor surviving.		

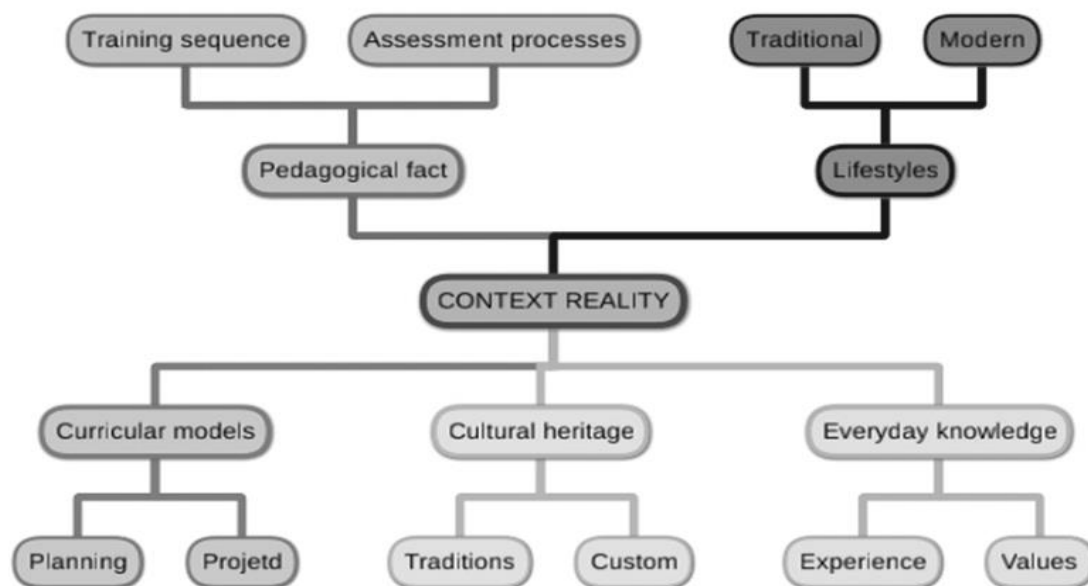Source: In-depth interviews applied to key informants.

Figure 01. Gathered information by categories. Source: In-depth interviews to key informants

Towards a pedagogy of complexity based on the dialogue of knowledge

Among the actions to be followed on the purpose of rethinking of the dialogue of knowledge on the pedagogy of complexity that allows to reveal the basic elements of a postmodern culture, supported on methodological resources monitored by pedagogical observatories to attract students and recognize teachers' vocation in a world of uncertainty and constant changes, and as an epistemological basis for an educative model with emphasis in a postmodern culture with innovative and proactive methodological resources according to the advances and transformations that are quotidianly lived, it is pertinent to point out that within those methodological resources arise a host of aspects that should be treated within the pedagogical action that is framed on complexity by seeking to give an answer to postmodernity to be adjusted to current society demanding, as shown in table 02.

Table 02. Innovative and proactive methodological resources

Methodological resources	Description
Tetralogic loop	It is considered as an epistemological paradigm of complexity that leads to a multivariate learning where it is included a series of aspects that converge in a process framed on the pedagogical action; it is how Peña (:3) indicates that "around the tetralogic loop, a polycentric constellation of notions of independence are disposed. This conceptual constellation is no more than a general value that influences all phenomena and every reality that will be studied". This indicates that it goes from disorder to order, then to the organization, and the process is repeated supported in every moment by the interactions and meetings; this, applied to the pedagogy, could possibly take the planning that indicates order and this one, when joining disorder, includes the elements of postmodernity (styles, innovation, changes, among others). In this way, it is possible to achieve a very complete organization following the ontological, the epistemological and the cognitive.
Visual pedagogy	It is important to bear in mind that visual pedagogy must gain spaces in the classrooms and turn the pedagogic fact into an act of demonstration and clear explanation, where the teacher must use active, proactive and creative strategies in

	order that the students understand inside the educational process, and in each of the moments of the dialectics to do emphasis in educational dynamics and methodologies that takes the message to the proposed aim.
Pedagogical deconstruction	It is pertinent to dismantle what exists to reconstruct new ways of teaching framed in mental maps and graphical visualizations that converge on deconstructing the existing things to generate exact knowledge currently needed by the students, departing from innovative strategies that manage to hold the attention and make effective learnings; it is important to indicate that this allows to stimulate a part of human beings related to neuroscience, concluding actions for a learning crossing the borders of the imagination.
Creative concretion	In relation to this part, it is necessary to guide the stimulation of the creative thinking and the strengthening of the creative intelligence leading to promote learning for obtaining knowledge that at all time allows to prepare students to face any type of situation. Hence, this lineament must be dictated in the curricular designs so that allows an education that considers everything around it as the technological, including the social networks, the podcast, the augmented reality and undoubtedly, the video production.
Evaluation rubrics	As for the evaluation rubrics, it is pertinent to include this instrument to establish an evaluation model for competences where it is demonstrated that how the acquisition process of knowledge, skills and abilities is, departing from the competences that must be acquired to continue forward in training; this evaluation process allows the feedback and the generation of new learning depending on the topics that are being developed.

Source: In-depth interviews to key informants.

7. Conclusion

Finally, it can be seen a rethinking of the dialogue of knowledge on the pedagogy of the complexity that allows to reveal the basic elements of a postmodern culture, supported on methodological resources monitored by pedagogic observatories to attract students and to recognize teacher's vocation in a world of uncertainty and constant changes, as an epistemological base for an educational model with emphasis in a postmodern culture with innovative and proactive methodological resources depending on the advances and transformations that are quotidianly lived. After the research process, the methodological resources that must be included in an educational model that understands and comprehends postmodernity are presented, where the teacher must become an innovative, creative, proactive and innovative entity that takes over the teaching processes and generates entrepreneurship and enthusiasm to achieve the goals in an efficient and effective manner, which leads to the formation of men and women capable of living in a changing dynamic impregnated with multiculturalisms in order to adjust themselves to the changes and transformations that are quotidianly experienced.

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