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METACOGNITIVE PEDAGOGICAL PRACTICE AS EMERGING CATEGORY IN A WORLD PERMEATED BY COMPLEXITY

La práctica pedagógica metacognitiva como categoría
emergente en un mundo permeado por la complejidad

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Abstract: Pedagogical practice, understood as a social practice that acquires meaning through interactions of people and among them and their environment, must consider the complex nature that characterizes the world where we live in. In this sense, it would be insufficient and even illogical to think of a static, linear and simplistic pedagogical practice. On the contrary, our environment's reality calls for pedagogical practices with emergent and even irreverent nature, with dynamism, research, reflection and dialogue as central axes, which, reconnected with the principles of metacognition, educate human beings who are able to self-direct their learning process and live well in a society that is permeated by complexity.

Pedagogical practice; metacognition; complexity; dialog; reflection.

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La práctica pedagógica entendida como una práctica social que adquiere sentido a través de la interacción entre los sujetos y entre estos y su entorno, debe partir del carácter complejo que caracteriza al mundo en el que vivimos. En este sentido resultaría insuficiente y hasta ilógico pensar en una práctica pedagógica estática, lineal y simplista. Por el contrario, la realidad de nuestro entorno insta de prácticas pedagógicas de carácter emergente e incluso irreverente que tengan como ejes centrales el dinamismo, la investigación, la reflexión, la dialogicidad, que religados con los principios de la metacognición formen individuos capaces de auto-dirigir sus propios procesos de aprendizaje y capaces de vivir y desenvolverse en una sociedad permeada por la complejidad.

Keywords: Pedagogical practice, metacognition, complexity, dialog, reflection.

Palabras clave: Práctica pedagógica, metacognição,, complexidade,, dialogalidade, reflexão

“True education is praxis, reflection and action of men over the world in order to transform it.”

Paulo Freire.

The concept of pedagogical practice has a complex and somewhat controversial nature. Addressing this concept requires taking into account elements such as pedagogical models, diverse pedagogy concepts, as well as the particularities of societies and institutions in which this practices take place. This reality gives pedagogical practice an intricate nature, making it difficult to define. This article set out to define

the concept of pedagogical practice, providing an emerging perspective introduced as *metacognitive pedagogical practice*.

Prior to this conceptualization, a differentiation will be established between existing ideas on teachers' practice and pedagogical practice, identifying divergences among them.

Teachers' Practice vs. Pedagogical Practice

It is common for the terms teachers' practice and pedagogical practice to be used interchangeably although both correspond to different categories, while they have common points, the terms need to be explained, understood and used differently given the contrast both concepts can have.

Firstly, the concept of teachers' practice refers mostly to the job performed by teachers at an educational institution, to the action of leading a teaching process, with the conditions pertaining to the task from a legal and administrative standpoint (Rockwell & Mercado, 1989). However, as mentioned before, the complex reality of the world transcends the limits of what has been understood as teachers' practice.

According to Cerda (2001), teachers' practice is based on two main approaches: practice and teaching. Primarily, an emphasis on practice allows teachers' tasks to be open to more than teaching. On the other hand, teaching has to do with the practice's daily nature and with the elements that intervene in this process, such as interaction between subjects, needs, context, among others.

Cerda's (2001) most meaningful contribution focuses on considering teachers' practice as an activity in which the main axis is the teacher's work, his/her actions developed in school or other training spaces, as part of particular interests at social, political and even cultural interests (Rockwell & Ezpeleta, 1986).

What does pedagogical practice do differently from teachers' practice?

Every so often the characterization of the terms teachers' practice and pedagogical practice is confused and this may be the main reason why both concepts are used interchangeably and mistakenly by many. The teacher's task in the school or the pedagogical action, as per Bernstein (1998), contains an analysis of the interactions that can be established applying communication pedagogy (relationship established between an individual and the different elements taking part in the educational process). These relationships correspond to what is known as pedagogical practice.

Hence, pedagogical practice is distinctly social, and as such, it has a complex nature that involves elements from macro to micro levels (Giddens, 1986; Bourdieu, 1987).

At macro level, pedagogical practice is comprised by a series of superstructures; at micro level, it refers to the subjects who are the main

axis of the practice; and at mid-level it engages all of the elements that mediate between macro and micro.

What is pedagogical practice?

Speaking about pedagogical practice entails referring to a category formulated to recover the history of pedagogy in the 80's, a concept that had been vanished from the teaching sphere tanks to the peak of education sciences (Zuluaga, 1999). A first approach to pedagogical practice requires using the idea of practice introduced by Foucault (1969) in *The Archaeology of Knowledge*, who understands this concept as the complex relation existing between institutions, subjects and discourses. Additionally, it requires comprehension of the idea of pedagogy. According to Vasco (1990), pedagogy may be defined as:

“(...) the theoretical-practical knowledge generated by pedagogists through personal and dialog reflections on their own pedagogical practice, specifically in the process of turning it into pedagogical *praxis*, based on their own experience and contributions by other underlying practices and disciplines”. (Vasco, 1990, p.18)

More simply and precisely, Zuluaga et al. (2011) conceive pedagogy as a discipline or knowledge that conceptualizes, applies, experiments and presents problems it proposes or deriving from other disciplines.

To complement the vision of pedagogical practice introduced before, Zuluaga (1999) considers it can be understood as a stage in which teachers have all of their personal and academic elements in place. Personally, teachers take into account components such as discourse and relationships with others; in terms of the academics, teachers consider discipline knowledge, didactic knowledge and pedagogical knowledge, in order to reflect upon their strengths and weaknesses on daily tasks to turn their practice into an instrument capable of generating social transformation.

From a critical standpoint that acknowledges the active role of teachers as a promoter of social transformation, researchers such as Saker and Correa (2015) consider that pedagogical practice must be understood as a:

conjugation of meaningful theories, competences, didactics, procedures and strategies linked to the educational process that, mediated by teacher-student interaction, merit permanent inquiry, interaction, recontextualization of experiences and knowledge needed to rescue human condition. (Saker & Correa, 2015, p.36)

The significance of this new view of the concept of pedagogical practice lies in the role of teachers and in the impact they may have on the transformation of their own reality, avoiding the fruitless task of reproducing content that fails to contribute to the betterment of educational quality. This idea is addressed by Gramsci (1973) when discussing this new view of pedagogical practice, instituting that the teacher-student relationship is active and contains reciprocal interactions

that derive in every teacher being a student and every student being a teacher as well.

With this in mind, curtailing the concept of pedagogical practice to teachers' tasks in the classroom corresponds to teachers' practice and not to pedagogical practice. Using both terms interchangeably is a mistake because, in general, what happens in classrooms or in schools is not just the outcome desired by teachers but a combination of a series of variables pertaining subjects, institutions and discourses. This view of pedagogical practice leads to infer that it is a specific social action over which teachers must individually and collectively reflect, with the aim of turning it into a true pedagogical practice.

In this century, educational institutions and different actors intervening in them are expected to refocus and reorganize training processes. The challenges, needs and interests proposed by these changing times, require responsible, thoughtful and efficient teachers to redirect and transform educational tasks through metacognition and cooperative work. For Morin (2000), educational institutions must drive change and transformation, taking into account key aspects such as: respect for ideas, human sense and what is glocal; therefore, teachers must be innovative subjects that foster spaces to benefit continuous training with reflection at its core.

Precisely in the search for reflection, action research is one of the ways in which researcher teachers may reflect upon their own pedagogical practice based on the creation of collaborative spaces substantiated in reflection and dialog that enable analyzing what is being done and how in the educational sphere, seeking the practice's improvement. This exercise concerning pedagogical practice potentiates teachers' thoughtful, researching and transforming capacities via permanent training. This provides meaning and ratifies the idea suggested by Carr & Kemmis (1988) and Stenhouse (1993), who highlight the importance of research in pedagogical practice and curricular design, as well as the need of teachers being the first researchers, who resorting to *metanoia*, may become generators of their own interests in terms of pedagogical practice.

Educational Research in the Teachers' Task

Some of the features of what is currently known as educational research (knowledge, intervention, improvement, collaboration) surfaced with Lewin's (1946) definition of action research. This author proposes that it is possible to produce scientific knowledge in the social sphere if the researched community's collaborative work is connected; in other words, this type of research promotes linkages and participation of community members who have the objective of fairly and satisfactorily improving a situation. Similarly, Carr and Kemmis (1988) refer to this type of research as a way for teachers, students and directors to self-reflect about educational and social actions, to enhance their rationality and justice with comprehension. These suggestions of educational research were reaffirmed by Elliot (1998), who explains this kind of research is the

study of a social situation intended to improve the quality of actions within itself, similar to a permanent reflection of human actions and social situations experienced by teachers and which they seek to effectively diagnose and intervene.

Thus, it is possible to define educational research as a systematic, self-critical and self-reflexive inquiry, justified by the constant longing to understand a situation that is considered troubling. It is both a task and a tool constantly used by the teacher to influence the minds of actors involved. This type of research practices set out to improve teachers' tasks by developing cooperative work, teamwork, to transform participants' social context or reality (Gonzalez et al., 2007).

Metacognition and its Relation to Pedagogical Practice

Lately there has been increased interest in studying the problem of learning and the development of knowledge from a perspective in which subjects are the main protagonist of their own learning process through reflection and self-direction. Namely, the subject learns how to learn and think with training processes in order to build meaningful and lasting knowledge that is transferable to challenges that rise on a daily basis. In that regard, one of the alternatives that boosts self-direction, self-control and self-awareness of the subject's learning process is metacognition.

But what is metacognition? According to Glaser (1994), Flavell (1976) and Carretero (2001), the concept can be tackled from two different angles: first, it is related to the subject's knowledge and how he/she builds it in terms of cognitive functioning. Second, is it related to the supervision and regulation of diverse processes engaged in cognitive activity when the subject undertakes an activity, task or goal. Thus, a distinction can be established as to the declarative nature or metacognitive knowledge (knowing what) and the procedural nature or metacognitive control (knowing how) that define metacognition's nature and essence.

Concerning the declarative nature of metacognition, three types of knowledge can be differentiated: the person, the task and the strategies. In case of the person, it refers to the subject's knowledge of him/herself as a learner, of his/her strengths, weaknesses and other personal characteristics. Task entails the knowledge of features that make it easy or more complex to solve. And finally, strategies imply potential alternatives that enable subjects to develop a task simply and effectively.

Considering what has been mentioned thus far, having the subject learn how to learn and be able to self-direct his/her learning process seems to be a need that has to be acknowledged; therefore, schools must contribute to helping subjects become autonomous learners throughout their lives.

Thus far, metacognition and its importance on training processes have been discussed as a response to the demands and needs proposed by the changing times experienced by this century's citizens. However, it is decisive to specify the route to follow in order to develop metacognition in the subject and to establish the role of teachers in this process.

The first step towards promoting metacognition in students is to have metacognitive teachers. If teachers fail to steer their pedagogical practice based on their own reflections, strengths and opportunities for improvement, and neglect their metacognitive control and knowledge, they can hardly teach students how to learn, and thus, they will fail in enhancing metacognitive's declarative and procedural nature.

Metacognitive Pedagogical Practice Metacognitive Pedagogical Practice.

It is convenient to recall the complexity of the teaching-learning process after the point of view of teachers, students, families and educational institutions, among other aspects is analyzed. Teachers are required to fulfill an important role in the development of metacognitive control and knowledge. This motivation brings life to what is known herein as metacognitive pedagogical practice, which is an emerging category that previews practice as actions that contribute to the student's metacognition development. This type of pedagogical practices can be bolstered by what Lin (2001) has called adaptive metacognition, which is none other than the individual and environment's self-adaptation as a way to make metacognitive instruction more adequate by teachers and respond to the wide array of particularities that can be found in the training environment. This is how metacognitive pedagogical practice could facilitate the reconnection process among the plethora of factors that intervene in the teaching-learning process, reflection, cooperative work, dialog and teachers' inquiry into their own pedagogical practice (see Scheme N° 1).

It is evident that education's structure is worthy of resignification, avoiding linearity and prioritizing dialectics, relationships and connections of the modern world we live in. A way of achieving the proposed objective is developing metacognitive pedagogical practices, since these facilitate and generate the necessary conditions for teachers to inquire into their practice aimed at reinforcing social transformation processes.

Scheme N° 1.

Source: compiled by the author, 2019.

Main Features of Metacognitive Pedagogical Practice

1. Its genesis is the world's complex nature:

We live in a world that is characterized and permeated by complexity; Gonzalez (2018) suggests that the inhabited reality is complex, reconnected and transdisciplinary; the world we live in cannot be understood from a perspective other than that of complexity.

This faces us with the need to develop thinking that is equally complex, as proposed by Edgar Morin. Nowadays, thinking that favors simplification is insufficient to comprehend the uncertainties that emerge on a daily basis. Our world's reality requires pedagogical practices that

follow this reality, its multidimensional nature and all the uncertainties that may occur.

2. It is dynamic:

Metacognitive pedagogical practice is non-linear and anti-static. It refers to a type of practice that is transformed as new needs and demands come up; primarily, it is a practice that contributes to recontextualizing and transforming realities based on its dynamic nature.

3. It requires constant research:

Research is the foundation of metacognitive pedagogical practice. The school sphere and interactions between teachers and students lead to uncertainties and, concurrently, to alternatives or possibilities for making adjustments and improvements pertaining ways of teaching and learning, getting to know their interests, strengths and improvement opportunities. These spaces encourage the teacher's researching spirit, which needs to be pushed to the limit. In this natural laboratory of multiple social interactions, the researcher teacher will encounter strikes and home runs all of which are needed to transform and improve pedagogical practice.

4. It is reflexive:

The element of reflection is of utter importance in metacognitive pedagogical practice because it allows teachers to constantly reflect about their actions, turning them into a sort of self-evaluation of their practice with the aim of resignifying it.

5. It is based on dialog:

Dialog is an element that complements reflection in a way that allows for collective analysis of pedagogical practice with a critical and collaborative view and with the main goal of adding dynamism, transforming and enhancing teachers' actions.

Scheme 2.

Main features of Metacognitive Pedagogical Practice.

Source: compiled by the author, 2019.

Teachers and Students in Metacognitive Pedagogical Practice

a) Teacher

In terms of teachers role, it is important to highlight that they are both moderators and experts steering students in the use of cognitive and metacognitive tools. Teachers explicitly show how metacognitive thinking processes take place, in order for students to acknowledge and develop these skills. Moreover, using reflection and dialog processes with peers, teachers will research and make decisions about which

skills to teach and how to do it better, taking into account students' characteristics, contexts, interests and particular needs.

On the other hand, metacognitive pedagogical practice calls for teachers to, explicitly and clearly (and preferably through daily examples) describe the way in which students can use their brains in certain situations based on self-knowledge and self-awareness attained from their learning styles.

Regarding reading, whenever there is a chance, teachers will give students the opportunity to choose their reading material and topics they want to learn or delve into. The most meaningful result deriving from this type of practice is awakening their interest and sustaining motivation towards learning diverse topics in the long-term, and in terms of literacy, it would entail the culture of reading for pleasure.

Aside from explicit instructions, metacognitive pedagogical practice comprises three stages to define the training of metacognitive students, as follows: guided practice, cooperative practice, and ultimately, the development of individual practice.

Lastly, any pedagogical practice with metacognition at its core is concerned with being aware of the basic elements of meaningful learning processes and oriented towards student's self-direction in each of its activities; these elements include planning, supervision, control and assessment of different undertaken actions.

b) Student

Student academic success is directly related to their capacity to think, critically analyse, make decisions and reflect on their own learning process. Yet, these characteristics are developed by students when they experience pedagogical practices with similar qualities. In other words, metacognitive students cannot be trained without a metacognitive teacher leading these processes.

When this occurs, there is a contribution towards training responsible, organized, committed, critical and reflexive students who constantly follow-up on learning strategies that are more advantageous for them.

A student that experiences metacognitive pedagogical practice is an individual that is capable of making autonomous decisions and that even enjoys teaching or guiding other students.

In Synthesis

As space of social interaction, education requires thinking, critical and transforming individuals who can transcend the materialization of actions comprising educational practice. Changes we are living need teachers who are able to encourage comprehensive human development. To do so, one of the main goals of teachers in this complex world is to achieve epistemological disobedience with regard to the static nature of some concepts. As educators, life's complexity is an invitation and a challenge to mobilize thinking, knowledge, to considering not just

darkness but also things that are possible and lead to better understanding of our realities from new epistemological and theoretical constructions.

In that sense, it is possible to state that pedagogical practice is not just a field of action, it is also about feeling and doing; it is a field of thinking that has had dynamic nature throughout time. Its concept, understanding and exercise has evolved and will continue to evolve due to the optimism of teachers acting as researchers and transformers of their own practice and realities.

Nowadays, pedagogical practice understood as the complex relation between institutions, subject and discourses calls for a critical view that reconnects elements such as theories, procedures, strategies to mobilize knowledge and evaluation, alongside educational policies and analyses of levels of reality experienced by teachers and students on a daily basis; all of these elements should be constantly questioned and researched, and use dialog and interaction between intervening subjects (teachers, students, family, society) as the main source of inquiry, reflection, recontextualization and transformation of these realities.

The importance of this new view of pedagogical practice lies in the acknowledgement of teachers' role and of the impact in subjects' training and transformation, avoiding fruitless tasks of reproducing content that fail to contribute to comprehensive training and that, in turn, curtail the concept of pedagogical practice to that of a teacher in a classroom (in reality, this concept is known as teachers' practice). Using both terms interchangeably is a mistake since what happens in classrooms or schools in general is not just the teachers' desired outcome but a combination of a series of variables related to elements described herein. This vision of pedagogical practice infers that it is a specific social action on which teachers must individually and collectively reflect, turning it into a true and lasting pedagogical practice. As Morin (2000) said, educational institutions have to drive change and transformation, taking into account essential aspects such as respect for ideas, human sense and what is glocal.

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