

# THE PHENOMENON OF KNOWLEDGE AS A PROBLEM IN EDUCATIONAL RESEARCH

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## El fenómeno del conocimiento como problema en la investigación educativa

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**Abstract**

The problem of knowledge is one of the fundamental themes of contemporary philosophical reflection, it has exposed the serious epistemological crisis of scientific research due to its ontological and anthropological gaps when it comes to understanding reality. The experiences of educational researchers reveal that the Cartesian and positivist thought categories of modern discourse undermine the processes of knowledge production that are generated in and through educational research. The purpose of the dissertation is to find, in the substantive experiences of thinkers and educational researchers, new reflection keys that promote a more experiential and significantly human type of discourse and scientific praxis. The method used is the systematization of experiences (Barrera, 2010). From the collected experiences emerged two fundamental theoretical keys for the reflection of the problem of knowledge in the context of university education, which are: (a) renewed scientific thought; (b) from the methodology to the scientific methodology. The phenomenon of knowledge emerges from experiences as a questioning idea that introduces us in a new way into the epistemological reflection of scientific praxis, from new perspectives that project the path towards a scientific research with an awareness character, that is, taking into account the fundamental dimensions of the human condition, that within objective research they would not have reason for scientific validation.

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**Keywords**

Research, education, science, epistemology, experience and methodology.

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**Resumen**

El problema del conocimiento es uno de los temas fundamentales de la reflexión filosófica contemporánea, ha dejado al descubierto la grave crisis epistemológica de la investigación científica por sus vacíos ontológicos y antropológicos a la hora de comprender la realidad. Las experiencias de los investigadores educativos revelan que las categorías de pensamiento cartesianas y positivistas del discurso moderno mantienen minados los procesos de producción del conocimiento que se generan en y a través de la investigación educativa. El propósito de la disertación es encontrar en las experiencias sustantivas de pensadores e investigadores educativos nuevas claves de reflexión que promuevan un tipo de discurso y una praxis científica más vivencial y significativamente humana. El método utilizado es la sistematización de experiencias (Barrera, 2010). De las experiencias recogidas emergieron dos claves teóricas fundamentales para la reflexión del problema del conocimiento en el contexto de la educación universitaria, las cuales son: (a) pensamiento científico renovado; (b) de la metodolatría a la metodología científica. El fenómeno del conocimiento emerge desde las experiencias como una idea cuestionadora que nos introduce de manera nueva en la trama de la reflexión epistemológica de la praxis científica, desde nuevas perspectivas que proyectan el camino hacia una investigación científica con carácter concienical, es decir, que toma en cuenta las dimensiones fundamentales de la condición humana, que dentro de la investigación objetiva no tendrían razón para la validación científica.

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**Palabras clave**

Investigación, educación, ciencia, epistemología, experiencia y metodología.

## Introduction

The dissertation of this scientific article is part of the research project titled: "Humanist and scientific epistemological theory of educational research through the systematization of experiences". Systematized experiences express that the problem of knowledge in educational research

emerges as one of the fundamental constituents to access the new emerging scientific narrative; this is the essential configurator element of the anthropo-gnoseo-epistemological systematization axis in the comprehension processes entailed in the investigation.

The new narrative is qualified by the contemporary essayists as post-modern (Lyotard, 1987), where their main contribution is the delegitimization of the modern science discourse, to give way to one that address reflection and research processes with a conscious and experiential character, through new categories of thought that make the new ways of accessing human's understanding and his/her ways of relating to the world.

In this sense, the problem of knowledge constitutes one of the fundamental elements of the theoretical reflection of the experience systematization, which raises the search for the human and epistemological meanings of the Socio-educational scientist research praxis. Systematized experiences suggest the need for a new scientific narrative that asks for the meaning of existence to continue advancing in the contemporary scientific efforts of the epistemological shift.

Systematized experiences refer to the problem of knowledge as one of the fundamental themes of the reflection and praxis of research in the transition effort of a modern rationality to a postmodern to cause a hermeneutic turn. The academic and scientific experiences of the socio-educational thinkers and researchers are daily found with the scientific discourse and instrumentalist practice of the nineteenth rationality. Science has been colonized by modern discourse (Diaz, 2015). It is a problem and a difficulty to overcome to think, understand and experience reality, to catch its meaning. The use of scientific codes and positivist verification-legitimation criteria keep the traditional processes of knowledge production undermined.

This is translated in the praxis of researchers into a scientific and instrumentalist vision that leads to make use of categories of thought and language that keep them anchored in the scientific past, is a limitation to the thought that prevents them from being free, it establishes limits through its disintegrative, simple and instrumentalist epistemological categories.

Because of the latter, the purpose of this dissertation, born from the experience of reality and daily life, is to find in the substantive experiences of thinkers and educational researchers, new keys of reflection that promote a type of discourse and a more experiential and human scientific praxis. In this sense, the concern is the description of new theoretical keys emerging from systematized experiences that stimulate a type of scientific discourse that is integrative, relational, contextual and exper-

riential, more human and that orients the task of educational researchers within the framework of the understanding-communication-meaningful epistemic coordinates of the socio-educational world.

The dissertation of the investigation is structured in four fundamental moments, which are:

1. Educational Research and modern rationality: the theoretical aspects of educational research are developed with modern scientific discourse.
2. The methodological path: the method is presented and the fundamental aspects of the systematization of the experiences are described.
3. Reading of systematized experiences: the two theoretical keys that emerged from the theorizing process are presented, and are revealed as fundamental elements to rethink the problem of knowledge in scientific research.
4. Final considerations: a substantive synthesis of the phenomenological nature of the new educational scientific research is offered on the basis of the experiences.

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## Educational research and modern rationality

Science and knowledge, traditionally, must have a foundation because they depend on an epistemological basis that sustains them. This is clearly explained by Moreno (2005) when affirming that he does not “understand the meaning or sense of a science, of a theory, of a method of investigation if it is not exposed in the light of the epistemological background underpinning it” (p. 39). The episteme, according to Foucault in his work *Words and Things* (1968), is what makes possible or closes all the conditions of scientific endeavor. According to Martínez (1997), “all science, like all theory, method or investigation, only have meaning or sense in the light of the epistemological background, in the light of a solid epistemic foundation” (p. 227). Thus, “outside the episteme all the possibilities of knowing and the roots that lead to the knowledge itself are clouded” (Bermúdez, and García, 2008, p. 92)

The episteme is constituted in the possibility condition of knowledge, in which is found the “foundation of knowledge and covers the cognitive field of a culture” (Morin, 1992, p. 217). This is forged in the field of “normal science” (Kuhn, 1962) in paradigms, in which finds its sense and positivity, as expressions of modern scientific rationality.

The scientific paradigms are conditioned by the episteme, being located “within a cognitivist structure, general philosophical framework or simply, socio-historical” (Martínez, 1997, p. 228). The truth and the meaning of the paradigms of science are not found in themselves, but in the episteme that governs their discourse and praxis.

In this sense, any attempt to understand the praxis of contemporary educational research should begin with the reflection of the paradigms and theoretical rationality that underpin them, the modern episteme; in other words, according to Martínez (1997) “All knowledge, in its genesis, production and product, is informed and governed by that imprint that is the episteme” (p. 229).

In this sense, the educational research, as it is known today, was born in the nineteenth century with the name “Educational Experimental Pedagogy” (Delgado, 2011), an empirical discipline marked by the epistemological codes of the reigning positivism. The research was carried out under the positivist influence to endow the nascent discipline with scientificity. The educational research is born in the historical-social context of modernity where the philosophical positivist thought emphasizes the interest to strengthen the education on empirical and quantitative foundations and to incorporate the experimental method in the human sciences (Delgado, 2011). It emerges permeated by the postulates of modernity. The processes of education and educational research, since its inception, adopted the scientific objectivist methodology as a fundamental instrument to constitute itself in a science (Flores, 2005).

As a consequence, the educational research has been constituted in an empirical discipline that privileges the objectivity of knowledge, the determinism of the phenomena, the sensible experience, the random quantification of the means, the logic and the verification in the field of education. Research and training occur under the myth of the methodological protocols of the scientific method, where what matters is the epistemological order in the research processes.

However, since its birth as educational research in the nineteenth century as “experimental pedagogy”, until today, despite the efforts of epistemological breakdown of university research by “the assumption of qualitative conception” (Delgado, 2011, p. 36) it is still legitimized within the paradigmatic praxis of positivist rationality, summit of modern scientific discourse.

This is because the modern positivist rationality generates a type of science, which works on a mathematical-mechanistic-functionalists (Galileo-Newtonian) supposes, and what the reality reveals is the dis-

junction quantity (*rex extensa* - Descartes ) –and not the quality – conjunction– from a deterministic scientific natural objectivism (hypothetical deductive-Comte) (Gajate, 2002).

This type of scientific discourse has established in praxis a methodological monism of the quantitative method, by employing processes of inquiry and empirical verification, where facts are quantified and reduced to a simple application of techniques and instruments of data collection and statistical analysis. Scientific praxis is a rationalist simplification where the proceeding of those who operate the science of research is mechanical, plagued by norms and methods. They are denatured and dehumanized, distressing and meaningless research processes for the researcher and the real object of scientific reflection. The world is explored from a strong logic-instrumental that ignores the complexity of the social and human realities (Bermúdez, 2015).

Contemporary educational research evokes the modern paradigm, its praxis is reduced to the use of strategies and instruments to collect and verify statistically data in an isolated and decontextualized way forgetting the question of meaning, of what is fundamental: significance (Salcedo, 2011). The concern focuses more on methodologies, on how, neglecting the onto-anthropological nature of reality study problem (Delgado, 2011). What is fundamental is not a matter of reflection or meaning; the efficiency of the medium triumphs due to the prefixed objectives (Bermúdez, 2015).

Educational research has been colonized by modern rationality, being marked by a mechanistic and accurate vision of scientific research. From this paradigm, the logic of the scientific method is privileged as an instrument by means of which the phenomena that can be known and that obey to natural laws, which are constant and necessary, are studied. Hence, its technical and instrumental concern to address the knowledge of the educational world.

The Cartesian, empiricist, mechanistic and positivist approaches have constituted a science, a rationality, an investigation of order and equilibrium, which according to Lyotard (1987), responds to the postulates of the Newtonian mechanistic anthropology, where the epistemological order understands science enclosed in itself, dehumanized and dehumanizing, where man as subject was expelled from it.

The Cartesian-positivist rationality has serious epistemological and methodological consequences for research in the field of human and social sciences, since it was transferred and assumed the scientific method of the empirical and natural sciences to the social sciences, including education. Supported by these approaches, positivist ideas are developed in

educational research in a relevant way from a quantification perspective: mathematics and statistics. Life is a hollow and meaningless concept for science and traditional research.

Thus, an ontological and anthropological emptiness of reality occurs, called by Morin (1999) as the “principle of reduction that tends to limit the knowable to the measurable, quantifiable and formal, according to the Galileo axiom: phenomena should not be described more than with measurable quantities” (p. 92); thus, emptying the reality of the being and the sense, and annihilating in the beings the qualities and their complexities that are not governed by mechanistic or mathematical principles.

The educational research suffers in Lyotard coordinates “the bureaucratic arthrosis” (Lyotard, 1987, p. 17), imposing limits by submitting to the determinism of laws, norms, bureaucratic regulations and methods that prevail “the homology of the experts” (Lyotard, 1987, p. 5), to the detriment of the ontological and anthropological nature of the educational world, which is nothing more than the absence of the epistemological element of understanding and fundamental significance; in other words and according to Garcia (2000):

The different spheres of culture are disconnected from the subject, transformed into a matter of technicians and experts, whose strategies invade the world of subjectivity. The world of personal life is replaced by the “managed” world by experts, whose expertise generates new forms of heteronomy. The one who now imposes the law is bureaucracy, the technique, and the method; the subject’s creativity atrophies as external impositions dominate (p. 34).

The state in which the educational research is located is that of an educational discipline marked by dehumanization, the result of the serious rupture between the humanistic culture and the scientific culture (Morin, 1992); the one that marks the lack of the element onto-epistemic: the anthropological. Descartes “absolute dualism” between mind and matter led to the divorce of the humanity science to the belief that the material world can be objectively described, without reference to the observer subject (León, 2011).

Educational research, from its birth as an experimental pedagogy, is understood within a type of knowledge strongly marked by organization and order because of productivity and efficiency. The question of the meaning and the destiny of human’s life in the world is unthinkable, an absurd to the point that humanity and science are irreconcilable to happen in clandestinely (Bermúdez, 2015).

This situation has its origin in the approaches and the modern pedagogical praxis that is characterized by the realism, displacing the human sciences by the natural. The realistic pedagogy was unsubordinated against the “humanist formalism” (Gadotti, 1998, p. 71) touting the superiority of the domain of the outside-empirical world on the world of the inside-subject, the supremacy of the things on the human. From humanist, education later became scientific in which knowledge only makes sense when it is prepared for action (instrumental dimension). Hence, the scientific formation of researchers is understood and realized with a scientist purpose. Education prepares for science; both are considered an end in themselves.

As a consequence, the progressive elimination of the human in science has led to the crisis and the epistemic-paradigmatic emergence. The crisis is in the postulates that sustain classical science. Educational research does not escape the crisis. According to Delgado (2011), the “principles on the objective and abstract vision of reality, the application of the methodologies of the natural sciences as the only valid for the study of the human and social, and the technical and instrumental reason of the education” (p. 15). This conception of research collapses the human and the complexity of socio-educational problems.

But, recent studies reveal that this paradoxical situation that undergoes educational research is mainly due to the serious consequences of the epistemological and linguistic code of modernity (Bermúdez, and García, 2016). The educational research suffers from the scientific normalization due to the inadequacy of the epistemological codes. It is undermined by the thought and language of the scientific past. It is a remora that continues to attract it to the scientific past that prevents from delegitimizing it.

The training and scientific experiences suffer from wealth because the reality is not being properly interpreted, but simple repetitions that legitimize the old mentality. Educational research suffers from the need for a new language, a language of experiential character.

Language is a limit to experience. As long as the language of the old paradigm in educational research trials within the qualitative modality continues, knowledge is minimized. Since we are pure language and unaware of its intimate and vital structure, its semiology, all scientific efforts to integrate and approach reality, the life of the concrete man in an experiential and holistic way, that is, to experience and live in fullness all its wealth, is meaningless (Bermúdez and Garcia, 2016, p. 146).

The contemporary epistemological challenge of scientific research is linguistic. The lack of positivist rationality for science lies in its linguistic inadequacy (Higuera, 2016). It lies through a rationalist language that makes people believe that objective reason is the only faculty to understand and dominate the world. It is a rationality that communicates with a language that loses all passion and existential interest in the thinking of the subject itself and in the existence of others. Therefore, it is a complete devaluation of the subject in front of his/her world and a chronic dehumanization process ((Marquez-Fernández, 2011).

## Methodology

The methodological approach used in this study is qualitative because it is intrinsically linked to the lived experiences of educational thinkers and researchers. It allows systematizing the knowledge in a more human way because it privileges the understanding in depth of the vital experiences of the substantive informants through the subjective universe and the one of the investigators, about the meanings of the experiences born from their way of life and interact with the world.

In this sense, from the methodological point of view, it is considered as a way of theorizing research to the systematization of experiences as proposed by Barrera (2010), as an exercise expression of the reflective thinking and the instrumental proceeding of researcher for generating the theory. The choice of theorization is because it is linked with the nature and the onto-cognitive aspects which are deeply subjective and orients the research, since its closeness with the epistemological advantages of the phenomenology that “is descriptive science of the transcendental pure experiences in phenomenological attitude” (Husserl, 1949, p. 166) and the hermeneutics whose object is to unravel and discover the meaning of things, to interpret as best as possible the words and writings, the gestures, as well as any act, preserving and safeguarding the singularity of the context in which were Gestated (Gadamer, 1977). These currents of contemporary thought favor access to the knowledge of the experiences of educational thinkers and researchers involved, and then describe them and move on to their systematization.

As a method, the systematization of experiences constitutes a path where are found educational thinkers and researchers (substantive informants) in full exercise of subjectivity, original sources and originators of knowledge, propitiating the description of the phenomenon of the life



experience; as it appears and is made present to perception. In those sections where the subjectivity of people (informants and investigators) was present, who also made possible the comprehension keys of the phenomenological essentiality of the described experiences.

In order to carry out the analysis process of the life experiences of the substantive informants, the three core and fundamental moments of the systematization were carried out, which led to the theorization process: (a) description of the experiences (registration and processing); (b) abstraction (identification of the ideas-forces and argumentative structuring of the theoretical corpus); (c) analysis (critique of the theory).

The substantive informants were selected from three important universities of Venezuela, experts in the field of education research training at the postgraduate level, which are: (a) La Universidad Pedagógica Experimental Libertador; (b) La Universidad Nacional Experimental Rómulo Gallegos; and (c) La Universidad Experimental Simón Rodríguez.

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## Analysis of the systematized experiences

From the theoretical abstraction process of the experiences of thinkers and educational researchers emerged five systematization axes of philosophical character with their corresponding sub-axes, which determine the research process because contains the set of ideas-strengths, the principles that allow appreciating the explanatory sense of the experiences described and serve as a basis for the syntactical construction of the argumentative compendium or emerging theory of the systematization of experiences, these are:

- (1) Ontological axis:
  - (a) return to the bases and conversion of the research to experience.
  - (b) Education and research for humanization.
  - (c) Education and research based on human rationality.
  - (d) Educational research axis of vocational training.
  - (e) To be a research teacher, to experience and understand the educational praxis.
  - (f) Philosophy in the life and scientific formation of the researcher.
- (2) Anthro-po-Gnoseo-epistemological axis:
  - (a) New Gnoseo-Epistemology of educational research.
  - (b) New language for thinking, understanding and communicating science.
  - (c) The subjectivity, theory and method of the new Gnoseo-epistemology.
  - (d) Daily life, ontological assumption of educational research.
- (3) Theological axis:

- (a) To live to investigate is to transform.
- (b) Interested science.
- (4) Axiological axis:
  - (a) the construction of a trustworthy and human knowledge.
  - (b) Research axiological halos.
- (5) Methodological axis:
  - (a) Methodological recomprehension.

However, in the framework of the anthropo-gnoseo-epistemological and methodological systematization axes, the experiences of the educational thinkers reveal the knowledge problem as one of the main elements to rethink the new scientific research.

In this sense, the phenomenon of knowledge emerges from experiences as an idea-force questioning that introduces in a new way in the framework of the epistemological reflection of scientific praxis, from new perspectives that project the way to a scientific investigation with conscious, that is, that takes into account the fundamental dimensions of the human condition, that within the objective investigation would have no reason for the scientific validation.

The question of knowledge was developed within an argumentative compendium of theoretical construction, which derives from the axes; this is described in two theoretical keys that are in close transverse relationship, which are presented below:

### *Renewed scientific thought*

The systematized experience suggests as a first task eliminating the scientific thought of the old positivist mentality. It is necessary a philosophical exercise that provides educational researchers with new categories of thought to question and think the plot of the generation of knowledge, which project the way to an incarnated scientific research.

A type of thought that disintegrates and reduces its object of thought to the pure materiality does not understand the complex ontological reality of relational being in life. It makes it impossible for scientific experiences to translate into a substantive communication of the human essence that will become vital experiences for those who know them.

Systematized experiences point to a new type of thought for science, with renewed categories. They consider that to achieve this categorical imperative, the following epistemological considerations must be taken into account:

(A) *SCIENCE IS UNITY*

Science is a unit or it will not be science. This involves giving a human sense to science. The human is understood as a complex set of constitutively united dimensions. The recognition of the total being, as a complex being (what is woven together), is the way for the scientific endeavor that involves rethinking the spirit a unity and not divided science.

Reconverting science and research is about recognizing the unity of science, but this will be possible if the total human being recognized first. It cannot be continued with a science that only investigates the objective dimension of the person, forgetting his/her subjective and intersubjective essence, he/she is not only matter. Scientific research must declare person's unity; this is the first step, the main act of the new scientific education.

The overcoming of the historical divorce between the natural and the human science that have subsumed humanity in a global crisis and that puts at risk the person and his/her world; it is a generational transition that will occur to the extent that it connects to a new kind of thought that believes in the integration between the visions of science and believes that there are no gnoseologic separations when it comes to knowing the structure of reality, and thinks that there is no separation or difference, conceives the unity of reality.

(B) *OVERCOMING THE SUBJECT-OBJECT DUALITY*

The consequences of the practice of old thought have led to a sort of fragmenting knowledge. In order to be able to think the scientific praxis within new coordinates it necessary to go through the historical overcoming of the Cartesian dualism. They consider it a philosophical and pedagogical task at the same time.

It is Philosophical because the educational thinker by penetrating and entering the essence of reality contemplates it as a unit, in a subjective or objective way. Also, thinking in another way, within new epistemological and language categories that gives way to the understanding of unity. As Bolaños says (2015) the first task of thinking is to begin to think that there is no difference between subject and object, not even to make science, there is a meaningful relationship among them.

It is pedagogical because the academic environments must abandon the theoretical dichotomic conception that permeates the science by establishing that the production process of knowledge is the result of a dual relationship that separates in gnoseological categories the subject

and the object. It is only necessary that it be known as historiography of the epistemological systems of the philosophical thought.

There can be no frontiers between the subject and the object for science, they are mistaken, it is impossible to dissociate them, they are no longer understood as two parts, but as an integrated whole. The world for the person is a unit and he/she is a subject of knowledge in unity, and does not accept separating into rationalist categories.

The educational and scientific task should be directed at revealing the scientific thought of the nefarious dualist Cartesian vision to progressively construct a philosophical system provided with epistemological categories of language that speak of unity and interrelation between the person and the world, humanity and worldliness, subjectivity and objectivity. Knowledge must be a process that evokes unity and interrelation, not the opposite, in which reality and the researcher are understood in a complex, dynamic and intercommunicated relationship.

For this reason, the experiences suggest that it would be a great breakthrough to think on new linguistic categories of scientific comprehension to overcome the subject-matter duality of the western scientific tradition, and gradually go towards a new gnoseological relationship, where the investigator is not only (subject-cause) the starting point of the knowledge (object-effect), where this can be only thought and built by him/her, without any possibility of being able to establish a significance relation.

As expressed by Higuera (2016), the linguistic categories of absolute rationalism of science are insufficient. The scientific interpretation of the world through a subject who thinks it as an object, which in turn is part of that world that thinks, beyond the borders of his/her subjectivity of the subject who is thinking, it is impossible to dissociate them from the object, they are affected and melted like paint on a canvas.

For this reason, educational thinkers, from their experience, believe that an education and a scientific practice that denies the subjective and spiritual essence of man in scientific processes are unfeasible. Pedagogical experiences are made necessary to promote new linguistic categories of scientific knowledge that evoke and denote the interrelationship between the person and the world, humanity and worldliness, subjectivity and objectivity, with a sense of total unity, a claimed to the other, without exclusions.

However, based on the contributions of the Husserl phenomenology (1949), the educational thinkers see in the concept of “Life”, *Lebenswelt* (Vital World), a possibility of a new linguistic code for the scientist to think man and the world in categories of unity and interrelation, always

complex, dynamic and intercommunicated, since the idea of the world depends on a subject that constitutes it and refers to a sense of a whole of its constituent dimensions that mark the way of doing and thinking of the human beings.

The world of life category, as a new linguistic category, provides the possibility of a new way of seeing the knowledge processes. It offers a vision of totality and unity. Life cannot be dissociated nor fragmented; it is a unit of all its dimensions that configures the human essence, being and chores. The notion offers the possibility of understanding the essential unity between the person and the world, between people and the world from their living worlds. The Husserl notion introduces the subjects in relation and in otherness, that is, according to Husserl (1979):

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The sense of being objective world is constituted on the background of my primordial world in many degrees. At first instance we must highlight the Constitution degree of the other or the others in general, that is, the egos excluded from my particular self [...]. The strange in oneself first (the first no-me), therefore, is the other me. And this enables the creation of a new infinite realm of the strange, of an objective nature and of an objective world in general, to which all the others belong and I myself. It is implicit in the essence of this Constitution, which rises from the pure others [...], the fact that the others do not remain isolated, but, on the contrary, constitute [...] a community of selves, which includes myself, as a community of selves that exist with one another and for the others, and ultimately a community of the monads, a community that [...] constitutes the an identical world (p. 172).

The notion life allows overcoming absolute rationalism, as it allows passing from the traditional idea of the generation of knowledge to the generation of knowing. The approaches of Cartesian rationalism are narrowed, giving way to understanding from the total person, where he/she no longer sees the world in dualistic categories. This is possible because the linguistic code underlying the world of life concept allows seeing the real person who rejoices and suffers, who works and enjoys, who lives and dreams, a person who is born and dies, approaching in a human way, closer to daily life.

To talk about the world of life is to talk about daily life. The world of life category is a new richer, more complex and experiential source to think about the processes of knowledge. That now cannot be just the generation of knowledge but also the generation of the know-how. Everyday life provides this possibility, to think about knowledge, the everyday being of the man who lives and communicates in the key to knowing.

For this reason, educational thinkers believe in the world of life category as a new gnoseologic scenario of theory generation, where research embarks on a phenomenological understanding process of the constituent dimensions that shape the world of life, which has given rise to knowledge and which are sources of new knowledge.

(C) *THE EPISTEMOLOGICAL TETRAGRAMMATON*

In a rationality that recognizes the human condition emerge the thought categories to think the phenomenon of knowledge in the process of scientific research, as are fundamentally four: subjectivity, intersubjectivity, daily life and knowledge as fundamental elements that make up the new epistemological pattern, all necessary to think and develop the research processes.

Subjectivity, as an essentially human dimension, is a form of knowledge. It is a path of theorizing and a method of scientific observation. It is a source of knowledge that originates in the experiences, is deep and is not tied to any method and is the way to overcome the dehumanizing duality of the subject-object excision that lives in science. For this reason, it is the possibility of a more human science, where it is possible that man is understood as a subject that is part of the world and is recognized also in the other, which is an organic unit of the knowledge.

The systematized experience suggests that the new scientific rationality of a conscious nature is built on the basis of subjectivity; it allows overcoming the obstacles imposed from scientific objectivism. Subjectivity introduces the scientific rationality in the field of the phenomenological, the knowledge of the internal *fainoumenon*, conscious and experiential of man. Subjectivity is constituted in the origin of a new recreation of scientific activity.

The investigator cannot get rid from subjectivity. It introduces him/her into unexplored worlds so far for science. Allowing to deeply appreciate the human spirit and the spirit of the world so far unrecognizable by objective science. The investigator delves into a conscious science that makes the human, the daily life, the spiritual, the immaterial, the cultural, the social, the experiential and the experiential their most precious contexts of thought.

-Subjectivity is constituted in a method of experiential theorizing, as an existential necessity, which is the natural means to trap the essence of the experiences that the human spirit experiences from the incarnation with the person. It is the source of phenomenological communica-

tion, introducing science into the beginnings of a new language and the new categories of scientific discourse. Thus, subjectivity allows passing from knowledge in general to the recognition of the know-how and the worlds of life as new epistemic categories, establishing new and dynamic forms of gnoseo-epistemological relationship.

For this reason, admitting and incorporating subjectivity in the scene of scientific activity leads to take into account the new epistemological references of a science of conscience to think and communicate the essence problem of knowledge. Subjectivity allows showing the phenomenon, the things that considers essential to communicate, as a reflection of an individual endowed with the subjective element in the appreciation of the reality. Subjectivity sees internally, phenomenologically, its own experiences and describes them with its particular experiential language that depends on the daily life and the particular world of living. The discourse of legitimization of subjective science is no longer explained in mathematical code, but is communicated in hermeneutical phenomenological codes.

-Intersubjectivity, from which the researcher is understood as a relational being, of otherness, of complementarity. It constitutes a tool to deepen the reality, in a scientific attitude, in view that the plurality of visions of the researchers is found in the complementarity an opens path so that they can intervene and make meaningful contributions to the processes of knowledge construction, giving rise to a more unity and communicated science through interdisciplinary, multidisciplinary and transdisciplinary efforts.

Intersubjectivity, grants the possibility of otherness for a enriching dialogue among researchers, whatever their vision of science and their particular disciplinary area of knowledge, therefore, open them to new and diverse ways of seeing their particular processes of research.

-Daily life is a source of scientificity, it had no meaning so far for positivist rationality. The new science, which is unborn, of a conscious nature, recognizes and assumes daily life. The daily life is fundamental to make the new science because it is day and day of people, it is the source of their experiences, it is the being of the people. It configures and expresses the being of the concrete man, where the essentially human is scientific. The daily life is part of the creed of the researcher who appreciates from the subjectivity an experiential scientific investigation. Recognizing the daily life leads to a greater appreciation of the being of the concrete person unfolding in his/her world of living.

Everyday life is the world of living, it allows seeing the real person who rejoices and suffers, who works and enjoys, who lives and dreams, who

is born and dies. Daily life is the being of an experiential scientific research. The everyday is the being of the people, including that of the researcher, and allows going beyond because it makes them enter into the dimension of their life as a starting point of the concerns and investigation processes.

It is in the everyday life where there is a flow of meanings that shape the being of the human condition in its relation with the world. Precisely, the search for the comprehension of its meanings is constituted in a base for the investigation and for the search of a philosophy of the daily life.

Daily life is the key to phenomenological communication, a communication that is expressed in a subjective way, that is, the *Da-Sein* communication, the being of the concrete person that is expressed through the knowledge. The everyday allows the person to life and communicate through knowledge; they are the epistemological expression of being, always submitted by the same daily life to a dynamic uncertainty. Everyday life becomes a source of research for new scientific knowledge.

-Knowledge is the gnoseological expression of the world of life of the person, of the being that emerges and that cannot be reduced to dualistic or exclusively rationalist categories.

The knowledge gives way the know-how which is the particular-local meaningful expression of all the constituent dimensions that mark the way of making and thinking of the human beings that are configured in their worlds of lives and the interrelation with other worlds of life. Knowledge is the epistemological expression of the being and the making of the concrete person that is the product of the complexity of his/her world of life and the interrelation with others.

*(D) THE NEW SCIENTIFIC NARRATIVE:*

Walking the paths of a new scientific thought means new categories. New science needs a new language. Research and scientific training carry the language of modern science on their shoulders. It is a type of language that constitutes a limit to apprehend reality in its natural state.

The task of the educational thinkers is to delve into the search for a new language, a language to experience and to capture the meaning of experience; a language that makes people able to penetrate the semiology of the life world of the concrete person to experiment and live with him/her, being part with of an experiential process laden with significance.

It is necessary a new language that introduces a new gnoseology, in a new gnoseologic relationship to experience, in a language to trap the being, the essence of the meanings for people in their interrelation with their worlds of life.

Language should not only be considered as the manifestation of the linguistic signs in the daily life of the human being, the signs that experience its act and discover its true being, are the product of an internal being expressed in gestures, the way of dress, in ways of acting, are a series of signs that belong to different codes (Eco, 1986). It is in this daily life where real research arises, which is an immense richness of signs that manifest various phrases that can be read in the various combinations of their categories that are not only grammatical.

They are combinations that arise from various paradigms according to the classification of categories of various codes that are the product of a subjective analysis that is contextualized in their world of life in relation to other worlds of life with which they interact and there is a Conventionality of signs and codes that allow you to interact and understand the reality in which you are immersed.

Language is for science the possibility of a new scientific narrative, there will be no possibility of a new science if it is not introduced into the law dynamics of language. Research should seek in the daily life and subjectivity of the concrete person the rules that shape the linguistics code and other codes, which determine the different functions of the language games, by which it generates its knowledge and the meaning for his/her life.

The problem with language is decisive for the educational researcher. He/she must make use of hermeneutics as a fascinating practice because it introduces him/her into a phenomenological-incarnate communication process, of the deepest significance of the human spirit.

### *From the Methodolatry to the scientific methodology*

The positivist method has been a constraint to understand the essential problems of humanity; it does not fully conform to the great spiritual and essential problems that affect humans. The traditional methodology is an obstacle to penetrate and solve the substantial problems that do not configure the elements for the happiness of the person and to restore the lost planetary harmony.

The epistemological paths of the present context have led to many initiatives and experiences that purge for a change and meaning reconstruction of the research processes, which are characteristic of the methodological dimension. Some are betting on destroying it, others bet for the new reconstruction and recreation of the method; others, by the construction of a new method, and others, the most reactionary, bet for a non-method; research is a spontaneous process discovering the world, the things and the paths of research.



These new initiatives purge by a change of meaning and reconstruction of the methodological dimension that are only possible from the new mindset. Without the recognition of the new mentality it will be impossible to overcome the instrumental logic to which scientific research has been subjected, and even to complement them. The methodology will remain being an obligation to develop research and the hegemonic criterion of scientific validity.

The methodological efforts and initiatives of the scientific contemporaneity are the first conversion steps of the research, to return to its bases, to leave behind certain practices and categories imposed that have led to the scientific research by paths that drive it away from reality. Therefore, the experiences suggest abandoning idolatry by the positivist method and all that it has carried with copy and imposition.

In this sense, it is necessary to overcome the methodological monism, the excessive schemes that has damaged by discrediting the scientific reason of the method as an always new, creative and axiomatic path. In this order of ideas, the experience of the educational thinkers considers that it is necessary to react against the rigidity and the methodological imposition. The methodology is not the component, nor the main additive within the research. It cannot remain being the path to meaningful research and solid scientific knowledge, the mere logic of the instrumental methodology is insufficient.

From this perspective, in these cyclical moments of change within scientific thought, which is favored by the staging of the new currents of thought of a qualitative nature, in the transit of one mentality to the other, urges to abandon the logic and the instrumental methodology to give more importance to the originality and creativity of the researchers that allows them to experience and integrate with the reality of the research and then build the method.

For this reason, the new mindset gives scientific research not only a new form of thought, but also multiple and diverse paths to develop it. New rationality delves into the new science not only by unexplored trails, but also in a new way of thinking, seeing and feeling the research. It recreates a state of new awareness of methodological processes, so that the methodological dimension will undergo changes, providing new and amazing science ways of approaching realities, allowing them to understand them better; that is, more experiential and original new ways to understand experiencing, to integrate to the reality in an exploratory way, previous and preliminary to any methodological construction.

From this perspective, educational thinkers consider that the methodological processes of scientific research are always previously more a praxis where scientific creation is essential; that is, they are a philosophical-experiential exercise of epistemological and ontological appropriation of the realities of scientific reflection. For this reason, the method is understood as an exercise of scientific creation, never of copying or imposing that adjusts to the nature of the reality object of the experiences and thoughts of the scientific researcher.

The method, as a scientific creation, is a profound epistemological and ontological reflection. It is a necessary incarnation between the researcher and the reality of scientific reflection whose result is a particularly non-definitive to fit research processes and meaningful knowledge. Thus, the method is important, as it is a scientific construction, because it links the characteristics, conditions, context, and all the particular elements of the reality and intentions of the actors involved in the particular process of the study carried out.

The scientific processes within the research are fundamental, and must be taken into account, but they cannot emerge from a “cooking recipe”, nor be an artificially constructed formula. In a research, methodological processes have to be consistent, fit and linked to the reality that the scientific actors involved are experiencing in the preliminary stage. These, after having felt and experienced with all the senses, decide how they will unravel, to reveal and to make known.

Therefore, the methodological dimension is a dependent dimension and linked to the triad of onto-antrum-epistemological dimensions, that is, the experiences, the experience and the discernment that the scientific researchers make of the reality. There is a concomitant linkage between the philosophical dimensions of research in thinking about how research; that is, the experiences of researchers and the method are always united, where the first are the reason for this; the methodological dimension of research is linked to the ontological dimension.

In this sense, the methodology can no longer be seen as a constraint, as an obstacle laden with procedures of scientific legitimation, which mention the limits, and violating them would constitute a veto. On the contrary, the methodology is a genuine scientific creation that contributes to broadening what were the preliminary processes of the experiences and understanding of the reality of scientific study. It must serve to imbue itself even more within it, where one is immersed to penetrate on it; to live it, to experience it, to feel it, to enjoy it. Then, the method becomes meaningful as a scientific creation, as a consubstantiality practice with the reality of study.

This would be a breakthrough, since creativity, as an axiomatic exercise, and not an invention of the imagination or manipulation of reality, has been taken out from scientific research. Scientific creativity has been a deficiency. Therefore, scientific creativity in its genuine sense must be present to rescue what is obvious in the old mindset and must be obtained from the new, which is nothing other than methodological complementarity. The excesses of the instrumental logic, in the name of the scientific objectivity, cracked the reality and the person, to the point of separating them to study them, which led to a separation and rupture of the science. In this order of ideas, recovering creativity can be a reason to build a path between human sciences and the objective sciences, based on praxis of methodological complementarity.

From this perspective, the educational thinkers consider that the scientific creativity comes to be formed like an exercise and a necessary virtue of the new scientific logic, opening it to an infinite range of epistemological and Methodological paths. Creativity cannot be ignored, is a basic component of the methodological processes of research, as it constitutes a philosophical rationalization exercise of research as it allows to transcend the excessive objectivist, looking in all possible ways more reflective research processes that make of these an experience marked by the methodological weighting and not by the simple artificial imposition. In addition, creativity as a scientific virtue provides the researcher the possibility of breaking the scission discourse, which has caused so many problems by introducing scientific experiences within the dynamics of a new integrationist language of the visions of science.

Scientific creativity establishes the balance between rigorousness and methodological flexibility, adding to the methodological research dimension a new meaning to its scientific sense, thus avoiding any risk of methodological debauchery.

## Final considerations

Systematized experiences see in the new thought metaphor that a philosophical and educational shift is brewing from the comprehension and application of the scientific educational research processes. The science of the future must be closer, more incarnated to emerge new and diverse ways of reading and pronouncing the universe, that is, to experience it, to understand it and to communicate it.



The research finds an epistemological rethinking of its praxis in the ontology and the anthropology, the work and the scientific concern delves into the discovery of the sources that produce the investigation. It is from the life experiences that the person experiences his/her relationship with the world and the meaning that gives to these constitutes the new horizon of the science work. Now, the relationship of the researcher with the researched, the researcher with the world and the world with the researcher, is an indissoluble unit. Science is founded on the vital truth of man, which emerges from the world of life and is irreducible to scientific rationality.

Scientific concern is neither the subject nor the world-object, but the world lived by the subject. Science becomes phenomenology, which recovers with subjectivity the onto-epistemological research value, returns it to its sources and to its original spirit. Methodolatry is no longer the way out for research with significant knowledge (Feyerabend, 1970).

Scientific research becomes phenomenological praxis and radical subjectivity (Marías, 1999), in a twist that repositions science in its original position. It is decentered of the *a priori* of the modern science, posing a philosophical and scientific shift to find its sense and its new work in transcendental subjectivity, as a metaphysical capacity of the knowledge of the factual being, of its worldliness (Heidegger, 1972). Thus, subjectivity is a way of knowing a methodological path, of doing science, which reintegrates it to its loss perspective, the Human (Gajate, 2003).

From subjectivity, scientific problems are addressed within its global sense and complexity. Subjectivity is constituted in a radical questioning of the classical ontology, attacking its fundamental line: the structuring of the reality around the subject-object excision. Thus, the problem of knowledge is ontological and linguistic, not just gnoseologic.

The scientific processes become more incarnated, focused on the world of life as they are lived, decentralizing the investigation of the objectivist vision that dissociates the researcher from the reality that is object of thought. The scientific question focuses its attention on the problem of human existence, in the onto-anthropological character, that is, the *Dasein*, the being-there and not the *Weseinser*-out of itself (Salcedo, 2011), the person is a dynamic being that is able to manifest and understand the self.

It gives way to the language of phenomenological communication, with linguistic and renewed thought categories. The new science is the objectivation of the subjectivity language, of vital and everyday knowledge. The scientific research finds the way of the content description that structure the meaning of the existence, of the objectification of life, of the incarnated spirit.

Research becomes a hermeneutical phenomenology, that is, a hermeneutic of the language comprehension of human life in its worldliness and facticity (Heidegger, 1972). It is the basis of meaningful, existential, everyday knowledge and wisdom, as objectivity of being (Salcedo, 2011).

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