

Methodology of Pedagogical Research

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Abstract

The pedagogical research constitutes a critical, dynamic, intentional, active process oriented towards the investigation of the educational reality under all its aspects. The present paper brings in the forefront the effort of pedagogy to crystalize its own methodology of research in its demarche of affirmation and consolidation of its scientific status. The complexity and the high number of inter-depended variables present in the study of the human condition foiled the effort to apply a *model of scientific research* underlain on the method of natural sciences in the field of social-human sciences.

In this context, the pedagogy was bound to shade its methods of research in order to surprise as truthful as possible the complexity and diversity of the educational processes. Thus, besides *the empirical-experimental method*, the pedagogy was enriched with new methods of research such as *the hermeneutic method, the historical method, the rhetorical method, the descriptive method, the problematization method*.

Keywords: pedagogy, research methods, empirical-experimental method, the hermeneutic method

1. Introduction

”The research methodology specific to pedagogy must be oriented towards an epistemic *object* which constitutes the essence of education – the functional-structural nucleus of education”².

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The definition of *the research problem* represents a first step necessary for the one who studies the specificity of scientific investigation in the field of pedagogy. In this phase we retain the essential elements, we structured by turns, the hypothetical ways of solving which will constitute a first conceptual reference framework. In the initial process of a research, this first moment of generalization of the educational reality is necessary in order to delimitate the problems of the research by which we can derive the concepts, variables, and hypothesis. A research pathway supposes a permanent exchange and comparisons between theory and practice.

2. The empirical-experimental method

The destiny of pedagogy appears oscillating between two reference points which mark two types of dependencies. On the one hand, there is the pedagogy emancipation from the philosophical discourse. On this rather long and complicated way, the pedagogy headed towards *the individualization of the "method"* meaning that efficient action way by which it can reach *the status of science*. This statement constitutes one of the most dangerous illusions of *pedagogy*, which leads towards a unique and restrictive landmark. The generalization of the importance of *methods* supports the prejudice that *the pedagogy* can become or can be considered "science only if it is empirical-experimental".³

The possible explanation, regarding the option for *the empirical-experimental method* has its origin in the need of pedagogy to tie the research criteria which offered it a "strong" identity. By the appeal to "*method*" *the pedagogy* predicts its coming back to a prestigious scientific profile. The risk, obviously consisted –beyond the benefit of its use – in considering *the empirical-experimental method* as an absolute and general model, by neglecting the other research methods, considered to be without rigour and truth.

The belief according to which the pedagogical knowledge is not defined as scientific, if it avoids its involvement in the empirical-experimental method is harmful for at least three reasons⁴:

- the method is not always configured as an adequate instrument in order to catch the subjective dimension present in each event/educational test;
- by assuming the empirical-experimental paradigm as a unique criterion of knowledge, the pedagogy limits its form and potential of its own research;

² Cristea, S., (coord. gen.) *Curriculum pedagogic*, vol.I, București, Editura Didactică și Pedagogică R.A., 2006, p.11.

³Gennari, M., Kaiser, A., *Prolegomeni alla Pedagogia Generale*, Milano, Bompiani, 2000, p.25

⁴ Sola G. (a cura di), *Epistemologia pedagogica. Il dibattito contemporaneo in Italia*, Milano, Bompiani, 2002, p.32

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- reducing its own discourse at the horizon of scientific, experimental method, *the pedagogy risks to build a deceitful and efemeral identity*.

It was stated that the empirical-experimental method is connected with the development of the contemporary scientific thinking which follows the “laws” of progress. The idea of knowledge has suffered a profound change because it is not only in the man’s service but also in that of the progress, in other terms of the economic market. In this historical-social and political-cultural context, the empirical-experimental method becomes dominant.

The pedagogy by its excessive and often unilateral appeal to this method, pursues its legitimacy as a science on a single epistemologic and normative way.

In this direction Franco Cambi observes the risks of such a restrictive demarche. He considers that the pedagogy has assumed “a subordination” towards the natural sciences which produces *an artificial generality*. It has in view the fact that “a bad practice” of *pedagogical knowledge* has its origins in its logical-epistemological poverty reduced to the methodology of experimental research which is not typical to the social-human sciences. This kind of demarche has urged the pedagogy towards those big pillars of scientific knowledge, appreciated as being solid, according to the model of nature’s sciences. The strictness of some epistemological principles, typical to the nature’s sciences does not correspond to the object of research proper to pedagogy which is in the search of a legitimacy inside the contemporary culture dominated by the supremacy of the scientific paradigm⁵. In the absence of a consolidated epistemological apparatus, the pedagogy remains in search of those formulas capable to propel it at the position of science by valorizing its object of study specific in relation to which it can be promoted as a methodology of specific research.

The empirical-experimental method constitutes only one of the methods of pedagogy. The assumed risks come from the fact that this is considered more than a method in the extent in which it tends or it is forced to be an exemplary methodological model, even if it is in contradiction with its specific, different nature of the object of research.

The experimental method is “overtaken at the boundary between the 19th and 20th century as a radical solution adopted against the metaphysical tendencies of treating education”. And the use in pedagogy of the experimental method pursues the explanation of the research object, education “in the limits of determinism of causal type”. As a consequence, the experimental method functions only on some measurable, repetitive phenomena which can be repeated at the researcher’s initiative.

With all its limits, *the empirical-experimental method* also presents some positive aspects. It is absolutely necessary for the study of some particular contexts and specific dimensions of education, of instruction, of the lesson, of the students’ class etc.

However, in relation to the world dimension of education, the empirical-experimental method “it is not sufficient in order to build the pedagogical science “, because the dynamics of educational/formative processes cannot be researched by means of measurable procedures every time. (our highlight)

⁵Cambi, F., *Il congegno del discorso pedagogico. Metateoria ermeneutica e modernità*, Bologna, CLUEB, 1986, p.52

Thus, besides *the experimental method*, *the pedagogy* requires a method of epistemologic reflection. This will filter, order, norm and even regulate the complex correlations placed at the level of the operation structure of education and instruction which ensure the nucleus of the scientificity of pedagogy. In this special epistemologic perspective, Riccardo Massa observes the following : “the pedagogy before experimenting should better defence its scientificity”.⁶

The general pedagogy tends to integrate the contributions that a correct experimental research is capable to produce without falling in that methodological reductionism which will suffocate the power of knowledge⁷.

The crisis of *the positiviste paradigm* has induced to pedagogy the need of a critical reflection on its possibility to provide to *the subject* a sure reference board which is objectively valid, with which this should confront effectively its capacities and competences.

2. The hermeneutic method

The hermeneutic method, supported at the level of some synchronous and diachronous historical investigations, values the lesson of *the empirism* and gives an increased attention to the conceptual rigour of its own science. It privilegedes the comprehension of a phenomenon according to the necessary teleological explanation having in view the building of a paradigm capable to catch the differences and complexity. Betting on interpretation, in an open social context, *the hermeneutic method* takes in calculation the fact that *no explanation is possible without comprehension and nor the comprehension without explanation*⁸.

“In human sciences, the “explanatory” moment cannot aspire to the generality of the physics laws; on the contrary, it must target the understanding of what makes unmistakable the individuality. We can understand the person’s acts or a historical episode, even if we cannot explain it as a chemical reaction can be explained; this is due to the complexity of constituent relations of the psychic and social reality and of the culture” (which *solicit interpretation* - our note). Even the pedagogy as a distinct field of scientific research “must follow this path if it doesn’t want to miss its target”, its aspiration at acquiring an autonomous status from the epistemologic and social point of view.

As a *socio-human science*, *the general pedagogy* cannot be limited only to the formation and education of man following the criteria of positive science. It tends towards “to understand” and “to interpret” the educational-formative dimension of the man in teleologic, axiologic and prospective vision.

⁶ Idem, p.64

⁷ Sola G. (a cura di), *Epistemologia pedagogica. Il dibattito contemporaneo in Italia*, Milano, Bompiani, 2002, p.34

⁸Minichiello, G., *Il mondo interpretat. Educazione e teoria della conoscenza*, Brescia, La Scuola, în Orefice, P., și Sarracino V., (coord) *Cinquant’anni di pedagogia a Napoli*, Napoli, Liguori Editore, 2006, p.246

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The pedagogy assumes *the interpretation* as euristic paradigm. *The hermeneutics* reveals new ways of research. Any educational act involves people who have a *subjective identity* and a *personal history* which cannot be neglected. "If the objective of the empirical-experimental method is to control, to quantify and check, the purpose of the hermeneutic paradigm is to understand, interpret and develop significance processes. Both methods pursue the improvement of knowledge of an event-test which clearly differs from each other".⁹

Having roots very well stuck in the classical culture, in the 20th century the hermeneutics in its quality of philosophical science, as methodology (method) or even paradigm, has a relaunch, especially by the contributions of W. Dilthey¹⁰, M. Heidegger (M. Heidegger, *Essere e tempo*, trad.Torino, Utet, 1969), and especially by the work of H.G. Gadamer (*Verità e metodo*, trad., Milano, Bompiani, 1983).

The hermeneutic method promoted during the 20th century once with the maturation of the epistemic discourse of the pedagogy, involves "the interpretation of education, the understanding of its essence, achievable at the level of determinism of teleologic type specific to the social-human sciences"¹¹.

In our opinion, *the hermeneutics*, as paradigm of research specific in the area of social-human sciences, finds in pedagogy a fertile field because *the educational relation* supposes a permanent dialogue between educator and educated, dialogue which leads through means of questions and answers to a mutual communicative understanding. The educational experience becomes *hermeneutic experience* as long as the actors involved offer for *reciprocal interpretation*, as like a text that is to be written.

The educational reality is an image of the historical-social reality. In order to interpret the educational reality, the pedagogy appeals many times to other sciences such as sociology, anthropology, psychology, economy, philosophy. It is conscious of *the risk that this interest of knowledge supposes to loose its own autonomy or to be identified with other sciences*. That is why all the provided information by other sciences are reported to the epistemic nucleus of pedagogy, to the basic function of education (*formation-development of the human personality*), to the central structure of education, based on the correlation *educator-educated*, necessary in any school and social environment (see Sorin Cristea, op.cit., 2010).

The hermeneutic method sets up within the pedagogical discourse, as a paradigm appeared in the 1990's. As Franco Cambi has shown "the hermeneutics was (...) a real turning point in the contemporary thinking, who has reposed certain classical problems of thinking/action/existence beyond the contexts (linguistic, conceptual etc) standardized in critical and radical form, defying the habit and traditions and focusing the thinking its status of adventure and open bet". It has in view an interactive discourse, circular, problematic and intentional, irreducible at any form of linearity

⁹ Sola G. (a cura di), *Epistemologia pedagogica. Il dibattito contemporaneo in Italia*, Milano, Bompiani, 2002, p.35

¹⁰ Dilthey, W., *Ermeneutica e religione* (traducere în italiană), Bologna, Patron, 1970, p.49-91

¹¹ Cristea, S., (coord. gen.) *Curriculum pedagogic*, vol.I, București, Editura Didactică și Pedagogică R.A., 2006, p.10

and repetitiveness, so long as it is in “connection with the event, with that event, with its singularity/particularity”¹².

In this direction, Mario Gennari stated that “a pedagogy understood as a global lecture of education” cannot neglect its capacity necessary to evolve and to engage “in terms of a science and an *interpretative* character”¹³.

Through *the hermeneutic paradigm*, the *general pedagogy* can balance the parametres of objectivity provided by *the empirical-experimental method* with the criteria of *subjectivity* (revealed by hermeneutic). This will lead both to the enrichment of the system of pedagogy knowledge and the avoidance of the limits that the empirical researches involve.

The pedagogy and hermeneutics are the replacers of a necessary dialogue. The reason of the meeting between *hermeneutics* with *pedagogy* is profound and aims their essence, there is a mutual exchange of experiences between them. The motivations of this dialogue can have a character:

- *cultural-historical* – in order to understand the evolution of education in different social-cultural contexts;
- *theoretical-philosophical* – in order to interpret the moral values specific to man, determining for the durable development which give ultimate content to the activity of education,
- *Ethical-anthropological* – in order to understand the epistemologic building of the pedagogical concepts and the criteria of development and classification of the fields in their way from pedagogy to the sciences of education.

Franco Cambi supports that *the pedagogy* in its essence is a *hermeneutic science*. Thus, “the logics of pedagogy (of the pedagogical discourse) is hermeneutic, founded on *understanding* (both at *epistemologic* and *cognitive* level)”. F.Cambi identifies the main points of meeting between *hermeneutics* and *pedagogy* as being constituted of: *the pedagogical epistemology*; *the pedagogical-educational event to read a text*; *the educational report*, *the pedagogical communication*; *the school theory*; *the general didactics* and its applications, the aesthetic aspect.

The hermeneutics reveals either a *pedagogical-didactic model*, either an interpretative key of the educational event. It tends to be applied to the didactic contents, subjects of education, the educational context.

The interpretation is a cognitive process of adaptation between *subject* and *object*, a critical and dialectic pathway. The pedagogy is a hermeneutic science because the educational action is hermeneutic: it is interpretative, it is comprehensive, it is historical. The interpretation represents a key-category of pedagogy – as social-human science – and of education – as object specific to research. “The interpretation signifies a process of critical thinking, open, tensional, never closed, on the contrary interminable”¹⁴

¹² Cambi, F., *Manuale di filosofia dell'educazione*, Roma-Bari, Laterza, 2000, p.95-96

¹³ Gennari, M., *Interpretare l'educazione: pedagogia, semiotica, ermeneutica*, Brescia, La Scuola, 1992, p.6-7

¹⁴ Idem

3. The historical method

The historical method is, for Mauro Laeng, *the most privileged method of pedagogical research*. Each man, each group, each culture has its own characteristics and the history remembers the exceptional individuals (geniuses, heroes, prophets) and the exceptional events.¹⁵

The nature's sciences, by means of *naturalistic methods*, as *empirical, experimental research* treat the phenomena as like as, to a certain point they can be comparable or substitutable between them. Instead, in *the human sciences* the things can not be approached as for *nature's sciences*, because there are no individuals, groups, societies, identical cultures from all the points of view.

Each human reality is individual and *non-repetable* it is thus, a *historical reality*. *The specificity of the research in socio-human sciences* results from here – thus, in *pedagogy* as well – which puts accent not only on *the hermeneutic method* but also on *the historical method*. In certain cultural contexts, *the historical method* is completed by *the rhetorical method*.

4. The rethorical method

The rhetorical method has a special status due to the fact that it is associated with a certain historical age. Thus, it is considered that in the classical culture, *the rhetorical method* accompanies *the historical method*.

On this background, Mauro Laeng appreciates that *the rhetorical method* is not practically a method of research. It appears especially as a *pedagogical intervention of exhortative type* which enflames the didactic discourse, urges to action and knowledge through affective and motivational force of the articulated words in the educational message. Its operational value, even instrumental appears highlighted in the specific framework of the historical and hermeneutic research.

On the other hand, in the extent in which the research in the social-human field is dependent on the dynamics specific to the actions or individual facts, this situation makes necessary the use of *the descriptive method* in the context of *pedagogy* and of *the sciences of education*.

5. The descriptive method

The descriptive method analyses the singular educational acts. It has in attention different aspects, suppositions, developments, particular, contextual evolutions of the

¹⁵ Laeng, M., *Nuovi lineamenti di pedagogia*, Brescia, La Scuola, 1987, p.233

actions with formative purpose. In this direction, *the anamnesis, the diagnosis, the prognosis* of the educational act are significant.

By *descriptive method*, the objective sides of the educational events are highlighted which offer the possibility of a scientific research inspired from the naturalist type. Thus, many *educational facts* can be registered, classified because they have not only *qualitative* but also *quantitative* characteristics.

By reason of *quantitative characteristics*, the educational facts can be summed after *frequencies*, expressed in percentage for groups or sub-groups with subjects with the same characteristics or different characteristics. For instance, the *docimologic research* can present numerous quantitative aspects, specific for the student in relation to evaluation, constituting a relevant part of *the scientific research* in today's pedagogy.

The historical and individual component does not disappear due to this direction of studies. It is possible to complete the transversal research with longitudinal research which observes the same subject or group of *subjects* during a certain time.

When this *objective methodologic* point of view is adopted, we can speak about *an experimental pedagogy* in the proper sense. It is highlighted by some specific characteristics. Thus, the experimental pedagogy appeals to methods of quantitative type, in contexts in which *the variables* are measured with proximate scales. It supposes the operation with *independent* and *dependent* variables. The intentionally proposed modifications measure the effects registered concomitantly at the level of the two variables categories. Even if the two *variables* do not represent the *cause* and *effect*, the experimental pedagogy can observe the relation existing between them, valuing the results at the level of some conclusions with restrictive, situational character.

In a broad sense, *the descriptive method* can be used in two specific directions. On the one side, in improving the techniques of analysis of human sciences, and on the other side, in the attempt to adjust its own method more approached to the natural sciences. *The human sciences, due to the complexity of their object, have conserved on a broad sense the philosophical research lines: the empiric observation doubled by the rational reflection for "the whole" or "the totality"*.

We consider this approach necessary because "it is difficult to understand phenomena such as life, conscience, intelligence, sociality, culture, *education* without respecting the organic totality" ¹⁶. A special accent is put on the idea of the need to understand uniqueness. *Understanding* is more important than the attempt to explain uniqueness by means of a particular case produced by general laws by a linear research, on a circuit of the type *stimulus - answer*. At its turn "the reductionism" is rejected, meaning we excluded the idea according to which an order with a certain degree of complexity can be started in simpler elements of an inferior order.

¹⁶ Laeng, M., *Nuovi lineamenti di pedagogia*, Brescia, La Scuola, 1987, p.234

6. The problems method- the pedagogical problematicism

“The pedagogical problematicism” aims an interpretative and operational model of the pedagogical processes. For Franco Frabboni, “the pedagogical problematicism outlines a rational model whose *theoretical* and *empirical* margins appear illuminated by the horizon of possibility and that of the anti-dogmatism”¹⁷

1. The horizon of possibility is that which values the concept of model, understood as “conceptual scheme according to which various aspects of educational life can be correlated and ordered in relation to a “teleologic” principle which ensures coherence and organicity”¹⁸. The model can be understood as ideal paradigm of organizing the educational life, open to the multiple pathways of the possible connected to the coordinates of the reality.

2. The anti-dogmatic horizon is relevant to the pedagogical model which applies to the contextual level, “the transcendental”, “the dialectical” and “the phenomenological” method:

a. The transcendental method attributes a « limit » teleologic respiro to the pedagogical model.

b. The dialectical method has the task to destroy those speculative edifices which try to contain and solve the problematic nature of the educational experience – complex, dynamic, open – irreducible to a dogmatic, static, restrictive, unilateral, closed register.

c. The phenomenologic method tries to guarantee a maximal openness to the pedagogical model being oriented towards validating the *subjective* and *objective* aspects, psychological and social, historical and cultural of the educational experience¹⁹. The phenomenologic analysis understands the moment of universality of experience ensuring “the totality of *significances* that it expresses, the values it elaborated, the *finalities* in which it constitutes, without compromise” in forms and perspectives which do not bring any “prejudice to their originality and autonomy”²⁰.

The report between *philosophy* and *education* finds numerous confirmations in the current themes of *phenomenology* and *hermeneutics*. The *phenomenological pedagogy* promotes and cultivates especially the theme of *communicative intentionality* and *inter-subjectivity*, as educational and pedagogical dimensions.

¹⁷ Frabboni, F., *Nel nome de problematicismo pedagogico*, în Borrelli, M., *La pedagogia italiana contemporanea*, vol.I, ediția a III-a, 1997, p.183

¹⁸ Bertin, G. M., *L'idea pedagogica e il principio di ragione in A. Banfi*, Roma, Armando, 1961, p.91

¹⁹ Idem, p.94

²⁰ Bărsănescu, Ș., *Dicționar de pedagogie contemporană*, București, Editura Didactică și Pedagogică, 1969, p.18-19

7. Conclusions

Being given the complexity of the educational phenomenon, the pedagogy cannot solve all the problematic situations, by using only one method of research. The methodology of the pedagogical research is one with an open character, self-improvable, on the extent of its object of research, extremely large and profound. The pedagogy, in its demarche uses a large range of methods such as: the empirical-experimental method, the hermeneutical method; the historical method; the rhetorical method, the descriptive method; the problems method – *the pedagogical problematicism*.

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