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DIALECTIC AND SYNERGETIC APPROACH TO THE PEDAGOGICAL PROBLEM OF ABILITIES

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Abstract

The neglect of the theoretical and methodological basis in teaching activities due to misunderstanding of the nature of the ideal dooms to a half-blind, ineffective search of methodological forms. The article presents the analysis of the pedagogical problem of abilities and the related problem of profiling students from the standpoint of philosophy, synergetics and, partially, psychology, as well as the basic ideas of the Method of Dialectical Training.

Keywords: educational process, rational thinking, the Method of Dialectical Training, the universal, the particular.

Introduction

There is no doubt that the sphere of education in a modern information society is becoming determinant to the destiny of both a single human being and the entire society. Hence, the task of its deep comprehension and systematization is gaining unprecedented urgency. However, the specifics of the subject creates the illusion of the impossibility of ascertaining the objective laws of the educational process, which is supported by a modern methodology of the pedagogical science that essentially limits the search of laws in humanitarian fields. The rejection of the specific characteristics of pedagogical activity gives the opportunity to reveal deep inner and

necessary connection of educational process with all fields of culture, clarify the place and role of educational process in the system of human values and the present state of science [1].

Materials and methods

Any pedagogical theory must be based on a consistent philosophy. With no claim to philosophical interpretation of all aspects of pedagogical reality, we will consider the pedagogical problem of abilities and associated with it directly the problem of school specialized education from the standpoint of the classical philosophy, as presented in the theory and technology of the Method of Dialectical Training (authors: Goncharuk A.I., Zorina V.L., Botov M.I, the patent of the International Centre of Pedagogical Invention, № 126 of 29.06.1996), and of synergetics as a phenomenon of postnonclassical science. What scientific foundations guide us to the establishment of organic unity of these two worldview positions to be used specifically in didactic systems? In his book “Self-Developing Systems and Postnonclassical Rationality” V. S. Stepin notes, “The idealization of the nonlinear medium, which is a complex integrated network of interactions, is one of the key theoretical constructs of synergetics. This construct is used in many specific theoretical models of self-organization related to the various areas, and is waiting for its fruitful use in didactic systems” [15]. G. V. Lobastov, a Soviet and Russian philosopher, a Hegelian, expresses approximately the same idea, “It is the problem of the ideal that is solved in the educational process. Every school is engaged in the production of ideal structure of human subjectivity. Another thing is that the school has never and nowhere been perfectly aware of what an ideal form is in general. This misunderstanding of the nature of the ideal turns into a half-blind search for methodical forms...” [10].

To restructure the teacher thinking is impossible without pedagogics going beyond the boundaries of its own ideas about the formation of personality. Everyday intuitive teacher thinking has put forward a beautiful, but empty, meaningless slogan “personality-centered education”. Early profiling of high school students has become a certain dignity, a definite practical result of the efforts of the pedagogical staff, despite the fact that it is impossible to find in serious pedagogical and psychological literature theoretical and methodological foundations of this idea, so it can be supported only with artificial formal “props”. In accordance with the decree of the Government of the Russian Federation of 29 December, 2001, №1756-R the senior level of secondary school provides specialized education, sets the task of creating “a system of specialized training

(profile education) in senior classes of secondary schools focused on individualization of training and socialization of students, taking into account the real needs of the labour market as well <...>

True diversity is only possible in unity and vice versa. As the Method of dialectical training (MDT) declares, “Through the general (children are taught to think) the particular is achieved (every child is a unique individual)” [5]

Long-term teaching practice of implementation and development of the MDT by Polyarush A. A., a co-author of this article, has showed and proved the efficiency and validity of this theoretical position: all former students – with few exceptions – have a degree in different scientific fields. So, today PhD colleagues are in the past prize-winners of Russian competitions: Poluboyarinova, A. N., Titova E. V., Vasina I. V., some are in demand as scientists abroad, for example, Itskovich, L., Litwin, A. (Israel), some have completed an internship abroad (Stepanova Yu.), some are the heads of private enterprises and scientific-research structures (Kochanova I.), etc.

Personality-centered education is inevitably put forward by the problem of abilities. If we try to find a definition of this notion in pedagogical or psychological literature, then we will be deeply disappointed with instability and blurriness of the use of this term.

In this respect, Hegel is still extremely interesting and instructive. On the one hand, there is an utmost sharpness in comprehending the problem, on the other hand, there are gaping holes in its solution, sealed just verbally, with means of purely verbal dialectics, as the Soviet philosopher E. V. Il'enkov writes [7]. The philosophical view of G. W. F. Hegel was much closer to the modern concept of synergetics than those of all the modern teachers. In the situation of instability (school age), the beginning of the phase transition, the integral description proves to be the most effective. If we follow S. P. Kurdyumov, the founder of the synergetics school, and assume synergetic nature of dialectical reason, it is fair to say that the substance of the universal is a historical prototype of the integral description of phase transitions [8]. Now apply the synergetic paradigm to the practice of profiling of high school students and see that our pedagogical practice is in the highest degree contrary to the natural laws. It is in the minds of high school students where the scientific picture of the world must get reflected. Not mathematical or humanitarian profiling should be the ideal of the modern educational process but the development of all abilities of the individual. In this regard, the pedagogical problem of abilities sounds new and takes on a new meaning.

Synergetics treated in its philosophical dimension can be characterized as monism. It proceeds from the fact that the world obeys universal laws and can be understood, at least in certain aspects, on the basis of a common explanatory model. “Everything in everything”, says a well-known principle of folk wisdom. This standpoint is quite consistent with Hegel’s philosophical understanding of abilities and a researcher of his philosophical heritage E.V.II’enkov. Noting that psychology is originally built on the dualism of Descartes: subjective (internal) and objective (external) are connected, but separated from each other worlds, and that this radical dualism is seen as something indisputable and obvious, II’enkov from the standpoint of monism analyzes a human quality such as the ability. When talking about higher mental functions, it is biology (the substance of the universal) that should be considered as something essentially undifferentiated.

The genetic texts of two people differ from each other by approximately one “letter” out of thousands. The rest of 999 nucleotides are the same. In each embryonic cell, there are several mutations that distinguish its genome from a parent’s one. Most mutations are neutral [2].

With reference to the subject of our article this position has a philosophical meaning: the main feature of human biology lies namely in the absence of predetermined genes of specialization. Each individual at birth has only abilities, and common ones. The innate organization of the individual’s body is extremely plastic and, therefore, leaves maximum space for variations which appear inside it. Biologically, the man is not adapted to any narrow environment, unlike animals which instinctively adapt to the environment, while people, due to objective laws of evolution, adapt the environment to themselves on the basis of consciousness. And it is consciousness that lets the man transform any environment. If one is not adapted to anything, then one is adapted to everything; what one can do, the other can do – that is the philosophical law of the unity of opposites. It goes without saying that it does not exclude, but, on the contrary, assumes the maximum variety of options for individual development. It means that biologically each individual has an equal opportunity of development in any direction of specializations which are socially predefined to him/her by contemporary culture. However, in the course of individual development in certain circumstances just one of the possibilities genetically inherent in every human is implemented by discarding all the others, so, biologically the universal brain develops one-sidedly. That is the cunning logic of a naturalistic explanation for social differences that

the cash form of labor division between people associated with the promotion of ugly one-sided development of abilities and suppression of all other potential biological functional areas of mental development, with hypertrophy of some functions and atrophy of the others, - all this begins to appear the most effective use of the capabilities of each individual, and, therefore, the entire population as a whole. In fact, such use is a rather barbaric squandering of the abilities, unattended use of human resources.

The system (rational) thinking can only be defined on the basis of the idea of the unity of the cognitive qualities. The idea of the unity of cognitive abilities, which corresponds to the synergetic principle of the integrated approach, should be a theoretical basis for a radical revision of the content of the teaching/educational process at all levels of the educational system. According to the Method of Dialectical Training the priority of the content of education is the transformation of consciousness, arming the student with a method of learning, and private disciplines serve only as means of formation of thinking [12]. High school education programmes are to form the students' idea about the diversity of modern sciences, and, thus, indirectly, guide high school students through the world of professions. For a school graduate to consciously choose his future profession, it is necessary to open for him the most of all available channels of scientific and cultural information, arm them with sharpened tools for processing that information, and not limit it to mathematics or linguistics.

Synergetics is the study of the interaction, the study of general laws that operate in systems consisting of separate parts [14].

There is no unity without being, but there is no normal being, devoid of any internal integration link, wholeness.

The nature gives us a valuable lesson (especially important in troubled times): it is a benchmark of naturalness, solidity, consistency, constancy, fortitude, inexhaustible internal dynamism – that is the true basis of the didactic principle of conformity to the nature!

The common being of consciousness implies the attainment by the person of his involvement in the Genesis to the depth of this relationship, beyond any local limitations – domestic, professional, ethnic, political and ideological.

The development is the self-organization of the wholeness. The role of the whole as integration structuring and constituent beginning, its priority in relation to its parts and the relationship with them has been stressed repeatedly in the history of philosophy. Marcus Aurelius, "Everything is decided according to the nature of

the whole” [11], Herzen, “All live is alive and true only as a whole entity” [4], Leibniz, “It is impossible to contradict the part not contradicting to the whole” [9], Hegel, “In the living, parts of it are to the same extent united, as a whole. A tree which has three branches makes up one single tree; but every son of the tree, every branch (and also its other children, leaves and blossoms) is itself a tree”[3].

What is meant is the integrity of the development, the unity of diversity, optimization of relationships, and the integral world.

While implementing the idea of high school students’ early specialization, we, thereby, cut off their thinking from a holistic knowledge of the world, and, therefore, hinder the realization of the species characteristic of Homo Sapiens, i.e. rational thinking, and leave our students at the stage of partial, truncated reflection of the world, i.e., at the level of the animal, and also recognize the fact of congenital dissimilarity which entails deep social problems.

Hence it reveals the entire depth of hypocrisy and deceit of the declared new approaches in pedagogy, personal as well as society oriented ones.

Claiming an overall theoretical and methodological analysis of the addressed pedagogical problem of abilities and early profiling (specialization), we will refer to the idea of a fundamental asymmetry in cognitive and practical activity, put forward by the Soviet and Russian philosopher and psychologist D. I. Dubrovsky [6]. The essence of this asymmetry is that cognitive and transformative activity is directed mainly into the external world (the man adapts the environment to himself, and not vice versa), while the vector of self-discovery and self-transformation is greatly shortened. It is easy to see, however, the essential dependence of cognition of the external world (with respect to its methods, objectives and results) on the self-cognition. Early profiling of high school students, identifying in them certain abilities with their further specific exploitation by teachers and parents narrows the range of creative and transformative abilities, leads to the buildup of negative consequences, and apparent absurdity, because due to student-centered education the individual was deprived of the opportunity to take a position of a universal logical form.

We should be more aware of the fact that certain phenomena of subjective reality and subjective reality as personal wholeness is a special object of knowledge which requires particular consideration and creative development of special cognitive means. Therefore, the educational system is designed to develop the only ability in the subject of teaching activities– this is the ability to

discover the form of the universal in any object form, and make it the basis, the backbone of the movement of the student's subjectivity in accord with the specific object content [10].

It means to organize the process of assimilating knowledge as knowledge of the object, not as a single "thing" that can be considered separately, without paying any attention to its surroundings (in a similar design fits a narrow ability to anything), but precisely as a system of things possessing its organization and communication, as a concrete whole. It means to teach thinking. The theory and technology of the Method of Dialectical Training solves the problem of the content of educational process aimed at formation of a method of rational thinking, which is possible only on the basis of dialectical and system (synergetic) approaches. The authors of the present article develop the MDT enriching it with a technology of system modeling through identifying and resolving contradictions as a universal principle of the surrounding world [13].

Conclusions

To pretend that education of the younger generations and the science about it does not depend on the objective laws of development of nature and society means to compromise pedagogy. Classical dialectics, which has never let anybody down, and the present level of the development of science constitute a powerful framework for understanding the educational process as a complex self-developing system where philosophical categories and synergistic concepts would speak a living language of "the greatest human case" - the case of the formation of personality, a unique one which absorbs all the depths of the definitions of the world, evaluates the world in new system of values.

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