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Fundamental and Applied Education - A New Look

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The problem under study is urgent due to the fact that the education sector is regarded as a historically system of human activity evolving both externally and internally. In this context, this article aims to perceive pointed reality in which the philosophical categories of fundamental and applied knowledge are viewed as the two poles between which the design and technological activities are set. The main idea of this study is a sociogenetic approach which allows considering any pedagogical project as a compromise reached by numerous agreements which is showed by great diversity. The article presents a dual biosocial human nature, proves educational activities, including the initial set-up of social channels and their further usage for circulation between individuals of different types of information, sets intravital forming of the Intelligence organ and the basis of personality among newly born human beings. The article information is valuable for both methodologists-theorists and engineers of education.

Keywords: fundamental education, applied education, biological and social in individual, fundamental and applied knowledge.

INTRODUCTION

The main theme of the March 2015 issue of the journal "Knowledge is power" was the question whether "Genes determine everything?" A chapter ends with the following sentence: "It is tempting to consider the usage and modifications of the term "gene" and its fluxions in the fields of knowledge which are very distant from the genetics (e.g., in the humanities), as well as in the mass consciousness and culture" (Genes determine everything? 2015). There is no need to postpone this request. Thus, V. Styopin, the country's largest philosopher, RAS academician reminds: "In the life of society, the culture performs the same functions as the genes biological organisms. It is a kind of a **genome in accordance with which the society changes and reproduces**"(emphasis added) (Styopin, 2014).

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The concept of culture embraces everything people touch throughout the history of mankind. The science as an objective reflection of the environment in the people's minds historically develops in the context of culture, and it applies to both natural and social fields of knowledge. It also includes the educational sphere. No wonder that eminent scholars agree with that idea (Zapesotsky, 2010; Asadullin, 2013 and others). It is known that J. Watson and F. Crick were awarded the Nobel Prize in 1962 for the discovery of biogen (deciphering the structure of the DNA molecule). But does it seem that seeing and recognizing how the natural formation of the social genome is set through hundreds of generations, through millions of human destinies by mostly bloody, and very rarely the peace agreements, is an extremely difficult job, and it is worth more than one Nobel Prize? It is necessary to suppose that sociogenom is a natural extension of the well-known human biogenom which evolutionary generates a specific material in society (objects of material and intellectual culture), reflecting the properties and relations of reality, but passed from generation to generation externally. As a result of its intravital mastering a child transforms from a biological specimen into a social individual, and the totality of those is able to create a harmoniously functioning single body of Humanity. In this case, the generalization of human population biosocial development appears as a consistent picture of internal-external inheritance complications in which education, professional training and social activities become structural and functional parts of developing becoming sociogenom. Fates of both the individual and whole mankind depend on the quality of the sociogenom. (Teregulov 2001, 2014).

All the aforementioned may indicate that the idea of the matter having a genetic nature finds its way in minds of many scientists. And now we need to roll up our sleeves and to start thinking about its constructive content. Currently, against the background of strengthening the requirements for basic training of experts, there is a basic tendency for professional education having practical orientation. Meeting the requirements of a modern economy and production, this condition leaves the question: will this tendency cause the damage to the fundamental component of experts training? The science usually considers this issue in the context of **a combination of theoretical and practical knowledge**. We should also mention that this kind of division is conditional and it is connected with the disclosure of sources and direction of each of the science branches development. And, despite the fact that these two lines of science development have a lot in common and that both of them have the aim of developing the knowledge system of reality and ways of its transformation, however, they differ in their specific functional purpose. At the same time, the differences in the knowledge organization do not create great obstacles for the mutual intellectual enrichment of both research areas as they are give the individuals al-round knowledge for their own purposes. Everything mentioned about the differences and similarities, mutual penetration of pedagogical concepts discussed during the educational process indicate the confusion in the pedagogical knowledge. This situation becomes a stumbling block on the way of a rational determination and constructive usage of them during the teachers' education. This problem is essential for teachers' education.

METHODOLOGICAL FRAMEWORK

The methodology of education being developed (we can call it "philosophy") offers a way out of the crisis, compensates the exhaustion of the primary pedagogical paradigm. Our construction considers limiting base (of the main subject, processes, tools), the place and the meaning of certain types of education in the cultural life universe, understanding of a person and ideal of education, the meaning and peculiarities of pedagogical activities, etc.

A person is a multilevel, hierarchically organized structure which is built into and over, it is an individual, a subject and a personality. The totality of these levels turns person into a kind of comprehensive integrity. We have chosen the problem of **biological and social** as a starting point for identifying the true content and purpose of education in the person's destiny. The fact is that during millions of years the biological development and during thousands of years the social development of Homo sapiens species has been directed, on the one hand, on the development of the sense organs and the adaptive mechanisms, but on the other hand - on the weakening of instincts, to the elimination of hereditary consolidation and the transfer of experience and abilities. In other words, biological inheritance ceased to spread its direct effect on achievements in the field of mental and social development in the socio-historical development of the mankind. Social and historical experience of mankind began to accumulate and consolidate in the outer, social, exoteric form. As a result, we mark the dual nature of a person both as a biological and social being. This fundamental duality accompanies a person throughout his life.

It is also true that many capabilities and features (to see, to hear, to touch, etc.) are associated with the existence of the relevant specialized biologically inherited morphological organs and systems. It is also true that many of the capabilities and features, meeting specific human acquisition cannot be morphologically consolidated and biologically inherited. However, the evolution of this particular considered branch of life as compensation converted the human brain into a very plastic substrate that can develop appropriate organs and systems, similar to morphological ones. The difference between them is only that the first could only occur **intravitally**, through a social stage of accumulation and fixation. That means that we should still consider biology and the emergence and ripening of the highest human acquisitions (abilities) and relevant bodies are **delayed** and kept within in some time periods.

When considering the relationship between biological and social evolution of a human, an idea of **heterochrony** may be productive. Heterochrony is a developmental change in the timing of some organ foundation or rate of its development. The most remarkable thing is that heterochrony has an extremely important and biologically justified adaptable function, giving a person a chance to adjust to life in a particular society. And how the person, who is a biosocial being, uses the given delay for his full development and, correspondingly for his full life, depends on the education. Thus, the main idea of education is to make maximal use of the given delay to form a specific integrative body, with social content and biological substrate, as much as possible adapted to the life in these cultural and social conditions. The success of this process depends on the correct understanding and the establishment of a specific individual biological and social connection, which involves the fundamental theory of education.

Pedagogy as a science in this way of reasoning is fairly consistent act of thinking about the phenomenon of education, including both its institutional and extra-institutional foundations. This act has an inherent worth, the pragmatic orientation should not prevail (at least at first, until the identification of the subject matter and the mechanisms of formation), it is thinking for the sake of understanding. Otherwise, we will get not the pedagogy itself, but a deliberate order to study the educational activities. Marx wrote: "The task of science is in turning the visible movement to the actual internal movement ..." (Marx, 1961).

RESULTS

Intravitally formed intelligence body

The scientific point of view requires the acknowledgement of the fact that any activity or ability to function is a result of functioning of a specific body or bodies and their systems. According to A. N. Leontev, "... the specific human abilities and functions are formed in the process of acquirement the world of human objects and phenomena by a person and ... intravitally formed stable system of reflexes make their material substrate" (Leontyev, 1972). The human brain, unlike the animal one, due to exceptional plasticity of more than 100 billion cells, is capable of creating in itself one more organ or superstructure. **This tumor is both natural and artificial and it is the central subject of the education**, the study of which is the problem of pedagogy.

Until recently, despite the enormous efforts of researchers, there had been no direct evidence of brain tumors (neural structures or superstructures), developed from the individual experience of the body and the educational activities of the person. Recently the situation began to change. Why did the problems of education biology, the searches of evidence (engrams) of the fact that the individual experience of the child, the educational process, causing some changes in the nerve tissue and in the brain structure, prove to be so difficult? Apparently, because we are talking only about the growth and development of tissues and do not allow the possibility of some new additional supreme body formation (superstructure) in it. The discovery of this new important organ in the human brain makes us think of the many already known and completely unknown facts.

As an evidence of the idea mentioned above we give pictures of cerebral cortex neurons at different ages (Lindsay, Norman, 1974; Pribram, 1975) (figure 1).

Thus, the number of neurons in the brain does not increase after an initial period immediately after the birth. What is more, they are not renewable, i.e. the neurons are unable to reproduce. Therefore, almost all of the human development and education occurs in the absence of any indication to the quantitative growth and the nervous system. But the neurons themselves experience substantial growth throughout the life; they develop and differ from each other in their long fibers, the length and the density of branching on the cell body and by amoeboid structures at the ends, which are called the growth cones which can be observed in tissue culture in situ.

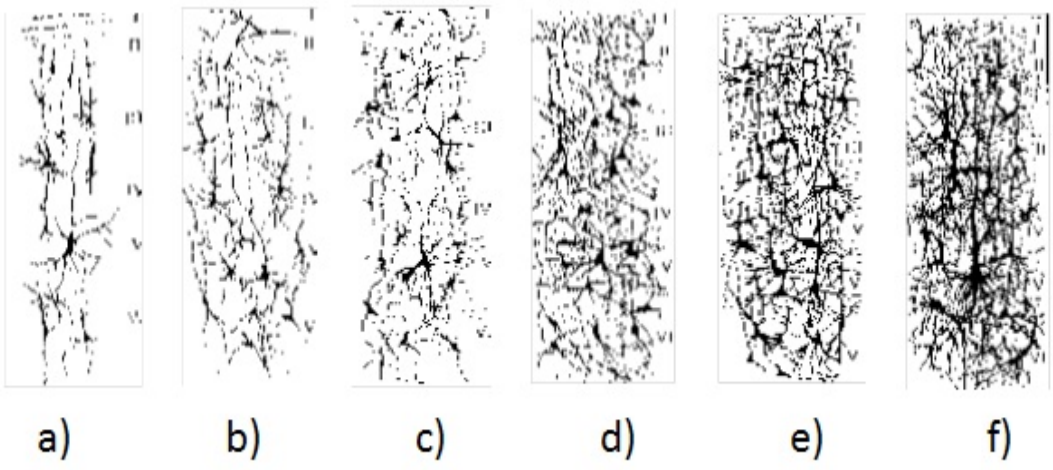

Figure1. Neurons in layer VI of the cortex

Notes: a) the development of neurons around the speech zone at birth; b) at the age of 1 month; c) 3 months; d) 6 months; e) 15 months; f) 2 years.

So, the fact is that the functioning of the five organs of senses, which are the result of "the entire previous history of the world", in humans, unlike animals, is supplemented by a sixth specific integrative body which, processing and generalizing incoming sensory moulds, is capable of directing the organs of senses to the reflection of the parties, which under other circumstances could not be the subject of reflection. This body is intelligent and has unlimited possibilities for the learning of an objective reality. The fact is that the enormous wealth of objects of material and intellectual culture, accumulated over the entire period of social and historical development of the mankind, is only the outer material expression of the human culture. However, the main wealth of culture, which manifests itself in the omnitude of needs, abilities, means of consumption, productive forces, etc. of individuals, lies in a person himself. "... What is the wealth, if not an absolute identification of creative talents of a person, without any other backgrounds other than the preceding historical development, making an end in itself that integrity of development, i.e. the development of all human powers, without regard to any whatsoever scale "(Marx, 1974). Intravitally formed tumor determines the degree of individual universality, the level of his needs and abilities, and only thanks to the purposeful and full education, individuals are capable of becoming universal subjects of activity.

The main thing that we should keep in mind is that **the person is a *bio-socio-epistemological* being**. Therefore the sixth body mentioned above represents (provides a greater or lesser extent) a perfect reflection of objective reality and allows a natural scientific explanation of how the objective world in its expanding fullness and essentiality enters a person and determines his behavior and life. They say that the person is a whole world. In his mind, he bears the image of the world, including the display of himself. **The presence of two worlds - the objective in the external terms and subjective in the internal terms - actually gives grounding for the full life of the individual: a preliminary mental construction of the actions and calculation of their results, proper regulation and control of the relations with reality.**

Detaching the processes of a three-level brain tumors formation and the corresponding inner plans, we should mention the establishment of a dual relationship between the subject and the environment: on the one hand, a certain degree of independence from its direct effects and the ability to address its image only when they are needed on the course of the internal processes; on the other hand - close connection of the inner life of an organism and its environment, where the latter is not only its arena of all actions and supplier of materials for its body, but also the field of its internal activity objects. The appearance of this activity therefore does not mean that the causal relationship with the environment have been broken, but the establishment of a new, higher, freer, and closer links between them. In conclusion we can note two three-leveled plans of cooperation, two spheres of the subject activity, and two forms of its action: external material and internal material ideal action.

It should be noted that when the internal plan appears, the purpose of the external plan substantially modifies, and when it is used in the educational process, it gets some extra features. At the beginning the external plan served as a knowledge of acquaintance and the indicative actions within it allowed to open certain aspects of objective reality, but when the inner plan and internal activity appeared, the latter in its development with the need, strives to break out and continue the search for the missing links, elements and resources in the external plan. The exit of the internal activity into the external plan, or so-called externalization, can occur in for a variety of purposes: to clarify, specification of an activity reasoning provided in the image, for capturing and consistent resolution of emerging problematic situations and simply for additional armament of newly formed intellectual body by means of

effective thinking and its optimal operation. Thus, the external plan becomes extremely important in the educational process, it not only serves as a source of living perception of the environment, but as an additional arena, external support (and control) of inner actions.

As a result, the pedagogical function of so-called visual teaching aids may not be to give students a vivid and colorful image of an unknown reality fragment and expand their knowledge of acquaintance in this field, but to expose the nature of the phenomena studied to the learners, set stable relations and the relations between parts of a studied whole and identify relationships of the latter to a wider range of phenomena, to bring learners to appropriate scientific generalizations.

We emphasize that the parallel operation of multiple codes with mutual transitions and inserts into each other forms a complex pattern of cognitive activity. Starting with knowledge of acquaintance and filling different cells with the corresponding sensory images, there is some new model - so-called conceptual model of objective ground. Not the subject area itself becomes a direct object of simulation, but the knowledge of this subject area, considered as an integral structured formation. This procedure can lead to the fact that the fusion of sensations which has been fused before now is differentiated into two levels: the phenomenon and the essence, or subject and concept. Distinction of phenomena level, objects and conceptual level, the essential representation of objects is characteristic of an intelligent behavior.

It is appropriate to note now that the intelligence for the first time arises where not only the activities differentiate into two phases – the preparation phase and the implementation phase (Leontiev, 1983a), but also where a two-level orientation in the work occurs: at the phenomenon level and level of objective reality nature.

Pedagogy and Education Technology

We should also remember about **the administrative aspect of the educational process carried out in the external plan, by which the process becomes available for study and control. For pedagogy, it is important that the educational resources remain the external stimulus giving the educational process purely external nature.** At the same time the pedagogy naturally focused on the external activities, as according to Leontiev, "... there is a disconnection of internal mental processes as if towards the objective world that imperiously breaks into this circle particularly in the external activity " (Leontiev, 1983a). **That organization and regulation of the process that "imperiously breaks" into the consciousness of the teaching world is the subject of pedagogy and education technology.** The educational types are differ in the way of understanding of the "intervention of life" in the individual's consciousness, its initial content, methods of activating the folding mechanisms of functioning, the way of principles formation, regulation, control through the gap, which is **a kind of pedagogical window**.

When the external method which is adequate to the essence and nature of personal tumor is found, the educational process becomes from formal into meaningful and manageable process. External method which occurs between the learner and cognitive reality may become the mediate link between a person and his brain (consciousness). The special arrangement of the external plan can be qualified as "carried out cortex", providing the achievement of a great correspondence of the methods used to the large specificity of tumors formed (their superstructures), the codes used (verbal and visual) – to the respective hemispheres, taking into account the laws of other brain activity. This training is based on a highly developed ability to design (to model) and the instrumental use of external methods which are external by the advantage, but adequate to the content of the plan and the mechanisms of its functioning is the essence of **education technification**. The

education is developing in the direction of increasing the mediation, and the latter - in the direction of increasing the degree of intellectualization.

There is an idea of the **outer material and the inner mental activity unity** in psychological and pedagogical science. For pedagogy that idea is of particular importance, since the whole point of pedagogical activity is in the transferring the external into the objective-subjective. This transfer and the order of internal mental processes occurrence is confirmed with the **interiorization principle**, according to which the internal, that is, forms of mental activities, are nothing but transformed external forms of the same activity. According to the views of Leontiev, the internal activity is **secondary**; it is formed in the process of interiorization of the external objective activity. "Mastering the mental operations underlying the assignment, “inheritance” of the knowledge developed by the mankind, concepts, requires a transition of the subject from outward actions to the action in verbal terms, and finally a gradual interiorization of the latter, which results in them acquiring the character of rolled mental operations , mental acts "(Leontiev, 1983b). V.Davydov has the same thoughts, claiming that "genetically primary activity is the objective one, when the internal one is its derivative" (Davydov, 1986). There is another point of view, which belongs to S. Rubinstein, according to which there is no activity that does not contain the psychic elements of the; at least, it should have an innate orienting reflex. S. Rubinstein agrees with the general movement from the outside to the inside and he specifies that the mental is not formed from the external activity, but in it (Rubinstein, 1946). Analyzing the long debate about the correlation and interdependence of internal and external development of the individual, both B. Lomov and V. Shadrikov note that any activity has inseparably linked internal and external sides. They form a single activity and their separation into external and internal would be artificial. The task of researchers is not to divide them first, and then to find their relations. There are real connections between the internal and the external interacting activities (Lomov, 1984; Shadrikov, 1996).

Recent years studies show that the organization of interacting transitions of activities fits into the other explanatory scheme. There is no gradual transfer of cognitive activity from outside to the inside, according to the theory of P. Galperin (1999) or other theories, but **there is a parallel and simultaneous activities (actions and operations) both in the external and the internal plan that are compared with each other, specified, completed until reaching some point of identity between their sources, between the structural tumor being formed and the corresponding reality** (Teregulov, 1998, 2011).

Thus, defining the function of education in human life as a means and process of conflict resolution of its bio-social nature, highlighting its material correlate in particular brain tumors formed invitally. Marking the latter as an ideal, symbolic model of objective reality - as an instrument of intellectual activity, noting codes used in it of the interaction with the environment, we have come close to the disclosure of the formation mechanism. “All in all - says E. Noymann – from the scientific point of view, we can consider the experimental life bodies, at least, it is better than lessen the fundamental fact of spiritual human existence and justify him by reflexes or behaviorism” (Neumann, 1998). **The bodies are not inherited now, they are formed.**

The evolution of the education morphology is in gradual movement from the “ancient” structures to later superstructures, in which the useful (suitable) for the survival ancient structures and their functions are maintained. It resulted in complex organisms, including human, having a correspondingly complex, composite and multilevel body which controls various structural and functional parts of life. And every level of operation has some impact, contributes to the success of the total operation of the complex organ. Thus, the "younger" tumors do not cancel the

"ancient" ones; the latter continue to function in the formation and "removed" they eventually make up a single system. **This complex unity lives its united life.**

DISCUSSIONS

What are these factors of human development and the principles of their coordination? They seem to be just secondary and related processes, but actually there occur deep "tectonic" faults and there hidden the essence of pedagogical tumors. Without including the conditions, no pedagogical activity or educational project activities can be implemented.

The philosophical dictionary (2001) says that the condition as one of the determinism categories forms the point of general dialectical world interrelation. In the dictionary of the Russian language of S. Ozhegov (2007) defines the conditions, on the one hand, as the **rules** set in any life area; on the other hand, as the **situation** in which something happens. At that the object of the study is something caused **internally** and the condition is **external** variety of the objective world. That is, in contrast to the cause, directly generating some phenomenon or process, the conditions are making an environment in which the latter appear, exist and develop.

From the psycho-pedagogical point of view, the category of "condition" can be interpreted, firstly, as a "circumstance from which something depends"; secondly, as a "requirement of a contracting party"; thirdly, as "the rules established in some life area , and the requirements which should be taken as point of departure – an atmosphere, an environment in which the phenomenon exists and develops (Rubinstein, 2004). In particular, V. Polonsky (2004) deals with the conditions as a set of variables of natural, social, internal and external influences that affect physical, mental, psychic development of a person, his behavior, education and training, the formation of personality. N. M. Yakovlev (1991) understands the pedagogical conditions as a set of measures in the educational process, ensuring the student's achievement of creative thinking on professional level. V. Andreev and A. Nine consider pedagogical conditions more extendedly: as a set of objective possibilities of content, forms, methods, tools, material and spatial environment to resolve the problems (Andreev, 1996; Nine, 1995). E. Yakovlev and N. Yakovleva also think that pedagogical conditions is an extend idea; they think that the pedagogical are always external factors towards the subject matter (Yakovlev & Yakovleva, 2006). L. Lvov has made the generalization of researches connected with the pedagogical conditions and distinguished four main points of view: the conditions; the set of measures; the environment; the characteristic of the educational activity subject (Lvov, 2014).

Summing up, we can say that the underlying problem is how the establishment of the desired object happens in this interaction of vaguely represented external-internal poles. G. Hegel wrote: "When all the conditions are present, the object must be valid, and the object itself is one of the **conditions** (emphasis added), because, being firstly internal, it is only a hypothesis" (Hegel, 1974). Recalling a vivid phrase of Academician Y. Zeldovich:"Insight of phenomena internal causes according to their external manifestations can be the most important, the dearest and exciting in all the science" (Zeldovich, 1965). Therefore, it could be a **generalization** of any condition (or set of conditions) against the background of the rest as the result of their stage and level approvals. Only with this understanding of the conditions there is an objective basis for the formation of external-internal learning processes of generalization, minimization, maximization of knowledge etc. Obviously, teachers, revealing the laws of educational sphere on their level, recognizing the existence of a plurality of external-internal objective conditions are capable of serving both causes and effects, are able to create favorable and remove unfavorable conditions of their activity. In this case, the conditions is something that exists independently (with the

ability to change and develop), transforming into the desired object in the activity, which has become a **set** of realized subjectively significant conditions. Another set of conditions for the successful course of the events is formed by the environment in which the object is located and operates.

CONCLUSION

People interacting with the world and with each other have been dreaming of knowing everything. Scientists also try to understand the reality and the perception of its origins is conducted on two levels: theoretical-methodological and practical. Methodological and theoretical principles required are intended to explain the existing diversity of the world, to unify our understanding of the matter evolutionary development, in order to construct a favorable environment for human live and development.

Naturally, these aspects of the world cognition are not isolated from each other. The experimentalist in his practice is ruled by the scientific concept, he confirms or denies theoretical predictions, and finding unusual phenomenon, tries to find an explanation for it and hypothesizes the use of this knowledge for practical purposes. And there are many such scientists who work in practical direction. Also there are quite a lot of thinkers, trying to summarize the isolated theoretical principles and experimental facts and to bring them to a common standard. However, none of them have succeeded in coming to deep generalizations and building a single family tree of nature. The lack of the major general works at the level of methodology and the lack of productive ideas leave researchers in captivity of inveterate concepts. All this points to the great importance of methodological culture for knowledge and transformation of reality and the education sector in particular.

It should be noted that the education sector was not given to our ancestors in the final and complete form. It replaced the instinctive behavior of animals, worked out evolutionarily and transmitted unchanged by biological means. The education sector developed gradually in the course of human activity, accumulated by generations as an external social phenomenon. That is, it can be stated that the establishment of the educational practice and of and proper pedagogy, as well as subsequent development of their relationship, has **a sociohistorical nature**. In other words, the education sector, using which our ancestors separated from the animals and turned into homo sapiens, is objective; its object cannot be changed in favor of the views of various researchers. On the other hand, it is established historically, getting more specific with the empirical development and theoretical understanding of it by the humanity. At the same time the subject of education and the educational science are developing, education methods and technologies are improving. In the beginning the development of those sides of education sector is spontaneous. And then it becomes more or less organized, at first experiencing an empirical generalization, and trying to gradually grow to serious theoretical generalization. In this case, we can say that the teachers of the past dealt with the same educational entity, only in the lower phase of its historical maturity. This view makes all the difference, because now we gain the legal right to any logical analysis of any pedagogical theory, created tens and hundreds of years ago. But also we have a right on a critical comparison of these theories with the actual picture of reality, contemplated by us today, from the point of modern psycho-pedagogy science (Asadullin & Teregulov, 2011).

From the beginning, the educational work has been and remained a **social**, common work, interlaced with lives of people, unequally divided between its various participants. It was imposed by **fundamental entity** spontaneously formed - and therefore incomprehensible for them. It is clear that the universal dependency of huge number of individual applied educational efforts from this emerging fundamental entity through its direct opposite - through private, fragmented and

not accustomed to each other independent educational activities and operations, having formed by now a huge amount of pedagogical conditions. Disadvantages of current thinking, which guide the teachers in the educational process, are their fragmentation and linearity, in the absence of systemic vision of cognitive processes and transformation of reality for the purposes of educating and training the younger generation. Therefore, the efforts of scientists, educators and teachers are focused on grounding and realization of intersubject relationship, on the creation of integrated disciplines, on search of invariants, universal means of reality perception and fixation of the outcomes of this reflection in the external form as a visual teaching aids and multimedia learning tools (Anisimova & Krasnova, 2015; Golitsyna, 2013; Sadykova, 2014). In this regard, there are calls of scientists to carry out all sorts of scientific approaches: dialectical, complex, synergistic, hermeneutic, axiological, holistic, activity, personal. The problem is in finding a common origin and generic branches of it. So we come to the idea of the educational sphere **monosystem** as the limit of a sequence of generalizations and achievements unifications of teaching science and pedagogical practice. The reverse of this process explains the expansion of educational space and the appearance of each specific educational form as a result of the chain of successive, gradual differentiations of fundamentally applied, starting with the original primary differentiation of biosocial unity of man. The result of deep differentiation will always be the polar opposite of micro- and macro certainties, complementing one another to the original entire. Then, no field of educational sphere can be changed without the changing of all other parts of it. Clarification of the processes understanding of the integration and differentiation of bases will lead to understanding of the educational process, to alternate combining and splitting of the theory and practice of the fundamental and applied.

V. Vernadsky emphasized in his "Scientific Thought as a Planetary Phenomenon" that "the science is the same for all times, social environment and public formations," it has "no Jew, neither Greek" there "are new forms of scientific brotherhood are sought and appeared - non-state organized forms of world scientific environment", it has "a framework that may be considered general and immutable for everyone, but cannot and should not arouse doubts "; "There are two parts of the science: obligatory and truly scientific. This is its sharp difference from all the other knowledge and spiritual manifestation of mankind – it does not depend on the era, nor on the social and political system, nor on nationality and language, nor on individual differences"(Vernadsky, 1977). This is what the educational science like.

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