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**Voznyuk A.V.,**  
*Doctor of Pedagogical Sciences, Professor of preschool  
and pedagogical innovations chair of Ivan Franko Zhytomyr University*

## **A NEW PARADIGM OF PRESCHOOL EDUCATION**

*Стаття присвячена обґрунтуванню нової парадигми дошкільної освіти на основі евристичних можливостей концепції функціональної асиметрії мозку людини, що постає системоутворюючим чинником для побудови нової парадигми освіти. Доведено, що розвиток особистості, будучи вільною сутністю, передбачає три стадії, що стосуються конкретних освітніх технологій: до 6-7 років соціально-педагогічний вплив на дитину має бути парадоксальним і "багатомірним" (домінування правої півкулі головного мозку); від 7 до 14 років соціально-педагогічний вплив на молодих людей має бути однозначним і "одномірним" (домінування лівої півкулі); після 14 років соціально-педагогічний вплив на молодих людей має бути "одномірним" і "багатомірним" одночасно (стан півкульової гармонії): як показують електроенцефалографічні дослідження, міжпівкульова функціональна гармонія виявляється у стані медитації і творчості [5], що постає основною метою людського розвитку.*

**Ключові слова:** концепція функціональної асиметрії мозку людини; дитячий і підлітковий вік; нова парадигма дошкільної освіти; дипласія.

*The article is devoted to substantiation of a new paradigm of preschool education, based on the heuristic possibilities of the concept of functional asymmetry of human brain being a system-forming factor for building a new paradigm of education. It is proved that the development of a personality being a free essence presupposes three stages concerning concrete educational technology: up to 6-7 the socio-pedagogical influence on a child must be paradoxical and ambiguous (the dominance of right hemisphere); from 7 to 14 the socio-pedagogical influence on young people must be strict and "one-dimensional" (the dominance of left hemisphere); after 14 the socio-pedagogical influence on young people must be "one-dimensional" and "multidimensional" simultaneously (the state of hemispheric harmony): as electroencephalographic research shows the hemispheric functional harmony is revealed in the state of meditation and creativity [5] being the major purpose of man's development.*

**Key words:** the concept of functional asymmetry of human brain; baby and juvenile age; a new paradigm of preschool education; diplasia.

*Стаття посвящена обоснованию новой парадигмы дошкольного образования, на основе эвристических возможностей концепции функциональной асимметрии мозга человека, которая является системообразующим фактором для построения новой парадигмы образования. Доказано, что развитие личности, будучи свободной сущностью, предполагает три стадии, касающиеся конкретных образовательных технологий: до 6-7 лет социально-педагогические воздействия на ребенка должны быть парадоксальными и "многомерными" (доминирование правого полушария); от 7 до 14 лет социально-педагогическое влияние на молодых людей должно быть однозначным и "одномерным" (доминирование левого полушария); после 14 лет социально-педагогическое влияние на молодых людей должны быть "одномерным" и "многомерным" одновременно (состояние полушарной гармонии): как показывают электроэнцефалографические исследования, межполушарная функциональная гармония обнаруживается в состоянии медитации и творчества [5], выступающего основной целью человеческого развития.*

**Ключевые слова:** концепция функциональной асимметрии мозга человека; детский и подростковый возраст; новая парадигма дошкольного образования; diplasia.

### **Introduction, the urgency of the article's topic.**

The main feature of our world is motion, being the most important attribute of the matter, the fundamental way of its existence. Thus, the major contents and the most essential way of man's existence is motion, development in time and space, the fullest and the most intensive expression of which can be observed in baby and juvenile age, where this development as socio-personal phenomenon is arranged in the processes of teaching, upbringing, education, realized within the framework of school system. That is why the main volume of social and individual life is concentrated in the domain of education which crystallizes the continuous intellectual space of cultural and historic development of mankind. School meets the requirements of society and has always been the basic social institute that, as J. Dewey puts it, can create in the project such type of a society which we would like to realize; influencing the people in this direction, we would gradually change the nature of adult society [1].

Preschool education is an educational process focusing on educating children from the ages of infancy until six years old. In the XX-th century, several European educators (R.Owen in Great Britain, J. H. Pestalozzi in Switzerland, F.Froebel in Germany, M. Montessori in Italy, J.Dewey in the USA, L.S.Vygotsky in Russia and others) began to develop educational systems designed for early childhood in the hope of actively helping children during one of the most crucial stages in human development [4].

Preschool education is usually grouped into several aspects: *physical development* (control of the body as to both gross and fine motor functions); *perception and sensory development* (developing the sensory system); *communication and language development*; *cognitive development* (developing all psychophysiological aspects concerning thinking, sensations, emotions etc using for cognitive processes); *emotional development* (developing and controlling emotions by a child); *social development* (socialization process, developing child's identity and his relationship with others).

However, the fundamental problem of preschool education lies in that, that pedagogical community does not have a clear idea about the main goal of human development. Revealing this goal, being the system-forming entity for all other goals and aspects of child's development, is the major **purpose of this article** focusing on unification the mentioned aspects of child's development around this system-forming goal.

### **The scientific results and their discussion.**

The main priority of the human being is freedom, which is a system-forming beginning of the man. Outside the freedom the man turns into an animal, thus all meaning of human existence loses is meaning. On the level of thinking man's freedom is manifested in *diplasia* (the fundamental ability of a person to combine in one context the opposite, mutually exclusive concepts, images, objects, for example "the strong weakness", "the alive corpse" etc) being the essence of paradoxes and contradictions.

The freedom is the main goal of man's development and educational process, around which all other educational aims are to be organized. The realization of freedom as the major developmental goals within the preschool education presupposes the actualization of ***a new paradigm of preschool education***.

So defining this goal and to tying the latter with the major aspects of preschool education can be achieved due to the conclusion that conceptually any educational ideology and its strategy are built on the basis of two major aspects – the goals of education and the ways of its achieving. If a man takes for the purpose of education the moulding of a harmonious personality, he should analyze two problems: the problem of defining a harmonic state, and the problem of forming this state.

From the broad philosophical and psychological standpoint harmony is, first of all, the wholeness, that is, the synthesis of all psychophysiological constituents of a person, the unity of his

physical and psychological sides, the state integrating thoughts and actions of their carriers, uniting in one whole all multiple dichotomies of our existence, such as moral and factual, internal and external, individual-personal and socio-historic.

It is clear, that the state of people's harmony, as something integral, is realized within the framework of such entity which, first, is a system-forming factor of a person as a holistic system, and, secondly, plays a role of the main regulator of its behavior. We have every reason to state that such a regulator is actualized on the basis of functions of hemispheres of man's cerebral cortex, about what B. G. Anan'jev wrote as far back as sixties, and what is difficult to dispute nowadays.

As the appropriate investigations show, the hemispheres may be possibly considered a psychophysiological focus of human organism, because with their functions such sides of human entity are related, as mechanisms of aim creation and searching for the ways of aim's achieving, energetic and informational regulation of people's behavior, empathy and reflection, extroversion and introversion, automatic and spontaneous psychic activity, first and second signaling systems, power and weakness of nervous processes, their lability and inertness, irritation and suppression, I and non-I, ergotropic and trophotropic functions, volitional and non-volitional psychic spheres, sympathetic and parasympathetic branches of vegetative nervous system etc.

Any automatic (subconscious) action of a man is included in right hemispheric, and non-automatic (conscious) – in left hemispheric aspects of psychic activity.

It should be noted that right hemispheric strategy of perception, thinking and mastering the world represents emotional, concrete, expressive, holistic world view which forms ambiguous polysemantic linguistic and motivational context of reflecting the reality, corresponding with energy-field aspect of the Universe which can be characterized as continual type of the matter.

Left hemispheric perception strategy represents, on the contrary, abstract-logical, sign-symbolic, discursive, conceptual, discrete, plural world outlook which forms accurate linguistic and motivational context of reflecting the surrounding world, corresponding with substance-informational aspect of the Universe which can be characterized as discrete type of the matter. We may add that right hemisphere "creates" religious-mythological, artistic reality, awaking to life such forms of social consciousness, as religion and art. Left hemisphere "creates" scientific-technocratic reality, awaking to life science and politics.

It should be emphasized that in onto- and phylogenesis of a living being one observes the process of gradual increasing the hemispheric asymmetry (in a baby the state of functional symmetry of cerebral cortex is observed when the hemispheres work according to the functional pattern of the right hemisphere), the greatest expression of which is reached at a mature age. Afterwards, the hemispheric asymmetry is gradually leveling.

The condition for functional synthesis of hemispheres is revealing when elderly person, enriched in life experience, factually transforms himself into a child with its plastic psyche, spontaneity, frankness and openness of perception of the world.

Here we have generally known philosophical idea about the development (thesis – antithesis – synthesis) when the third stage of the development dialectically repeats the first one, but on the higher level of development.

If we take into consideration the fact, that right hemispheric functions focus on the present time with turning to the past, and the left one – on the present time with turning to the future, then it is possible to say that person's development moves quite naturally from past to future, and from the latter – to their integration, when spacio-temporal dichotomy of the Being is eliminated and a person liberates himself from "the curses of Chronos".

The method of integration of "right" and "left" types of world comprehension in schooling process is illustrated by the pedagogical system of **V. F. Shatalov** that has a miraculous effect. This system applies the principle of hemispheric synthesis when in the framework of the schooling process the two polar aspects of psychics (right, concrete and left, abstract) are putting into harmony. Here on the one hand the pupils are given a certain set of concrete facts (of mathematical, geographic, historical nature, etc.), and on the other hand – all these facts are transformed in the language of so called auxiliary signals which are of abstract nature. That is, every fact and the

strings of facts are encoded by abstract signs.

The pupils are taught to manipulate simultaneously with two opposite rows of realities, realizing their mutual transformation, when the concrete is perceived through the abstract and vice versa. The sufficiently long practice of bringing together left and right sides of psychic activity helps to create the orientation to "integral" psychic activity, in the sphere of which the aspiration to the creative activity is revealed and as the result – the schooling processes are accelerated tremendously. It is interesting that all Shalatov's pupils begin to draw which is the result of activation not only abstract but also emotional aspect of the person. Moreover, the information in this case is being mastered at a great speed.

The principles mentioned above, as we believe, gives us the idea of main aspects of a new paradigm of education, showing in what way to unfold the stages of educational process on the structural, dynamic and pragmatic levels.

Up to 7–8 years of the growing child the right hemispheric aspects of schooling is to be developed.

After the age of 8–12, when the process of active hemispheric asymmetrization is revealed, we are to turn to the left hemispheric aspect of schooling process. But here a great attention should be paid to the process of mutual functional correspondence and harmonizing of both aspects of human being, since here we must achieve the state of hemispheric integration without losing the right hemispheric capacity of person's activity. As the Japanese proverb says, at 10 any of us is a genius, at 15 – a talented person, and at 20 we are just ordinary people.

Thus the main task of a new paradigm of education lies in the building of algorithms for shaping the paradoxical (dialectical) way of thinking, the development of which should be considered the major aim of psychotherapeutic and psychological and pedagogical influence on actualizing personality. Due to these process *deplasia* is developing – a fundamental man's capacity consisting in the ability to unite in a whole thinking context diametrically opposed entities –that in language study are realized in such figure of speech as oxymoron that juxtaposes the elements that appear to be contradictory, but which contain a concealed point, for example "controlled chaos", "open secret", "organized mess", "alone in a crowd", "accidentally on purpose". Deplasia is an indispensable aspect of any creation, for example in Shakespeare's "*Romeo and Juliet*" Romeo declares:

*O heavy lightness! Serious vanity!  
Mis-shapen chaos of well-seeming forms!  
Feather of lead, bright smoke, cold fire, sick health!*

So, the key words of a new paradigm of education are: harmony, spontaneity ("over-situational", non-adaptive activities), creativity, paradoxical thinking, wholeness, synergy, openness, integration of dichotomies of man's existence, such as myth and theory, active and passive aspects of our behavior, facts and value etc.; sense-genetic, understanding approach to the world.

**The *received conclusions can be extrapolated to preschool education.***

If human development moves from the right hemisphere to the left one, and from it to their functional synthesis, it means that the socio-pedagogical influence, which is realized mainly at the level of the right hemisphere (at preschool and primary school age), are transformed into certain abstract logical forms at the level of the left hemisphere (at intermediate and senior school age). The latter, therefore, contains the implicit right hemispheric concrete and imaginative material, being the result of pedagogical influence at preschool age, which determines the unfolding of the left hemisphere processes (at intermediate and senior school age).

Accordingly, ***there is a kind of encoding of the future human behavior through right hemispheric "prism" of concreteness and imaginativeness.*** This process finds its most consistent expression in fairy tale due to metaphorical way of understanding and exploration of the world and

at the level of preschool education is implemented in the development of pedagogy of *teaching fairy tales* and *pedagogical paradoxology*.

Thus, the formation of deplasia in childhood is realized most effectively in the process of using fairy tales (both folk and authorial), in which magical-mystical paradoxical element is the most important mechanism for the transfer of the content of the fairy tales. The mentioned principle of a new paradigm of upbringing finds its implementation in the ambivalent approach in pedagogics (S. U. Goncharenko).

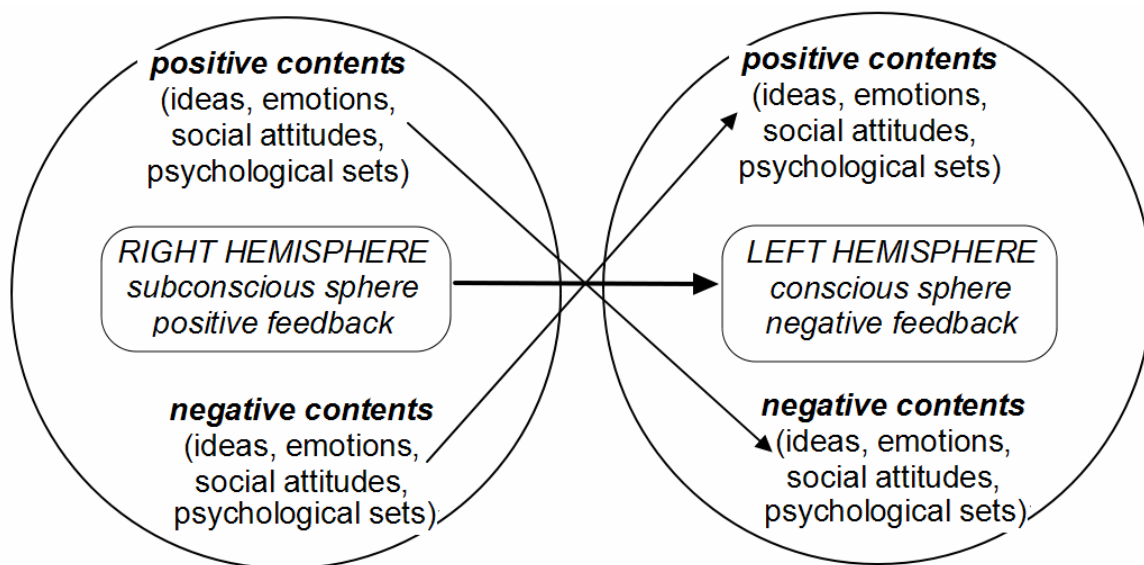
Thus, in connection with the phenomenon of mentioned encoding of information of the level of right hemisphere and decoding it on the level of left hemisphere it is possible to speak about a paradoxical strategy for the education of preschool children in the context of forming social attitudes and psychological sets thus developing children's personality.

A child (especially at an early age) is mainly a right brain creature, that is, he is unconscious human being. All the moments of early childhood are perceived by a child in a wholesome way and uncritically on the level of unconscious right brain sphere of psychic activities, that is, they are absorbed as a guide to action in the spirit of *positive feedback*.

This circumstance contributes to the formation of many social attitudes, psychological sets. Positive attitude can be understood as stimulating certain actions (such as washing hands before eating, etc.), and negative ones – as banning certain actions (“don't drink cold water”, “do not play” “don't cry out loud”).

An adult person is characterized by hemispheric asymmetry and the development of the left, abstract and analytical hemisphere, which, unlike the right hemisphere, functions according to the rule of *negative feedback* (stemming from contradictions and criticism), when all that is perceived at the level of the consciousness (left-brain aspect of the mind) tends to be perceived as hostile and is subjected to critical analysis.

Therefore, all social attitudes, psychological sets (being formed in the child, especially at early childhood), are interconverted in adult personality: positive into negative and negative into positive. Thus an adult reveals a tendency to do all the things he had been taught in childhood, in a vice versa way (see fig.1).



*Fig 1. The model of transformation of the contents of right hemisphere into the contents of the left hemisphere*

This process explain in a certain way why the families of religious fanatics rarely produce real religious children.

Taking into consideration the made analysis, we can say that to develop a child as a free personality one should form in a child neutral, paradoxical attitudes and sets, which give scope for his development, not enslaving and programming child's behavior.

Neutral-paradoxical attitudes and sets are formed on the basis of hemispheric fusion, which is a prerequisite for the development of harmonious personality that requires formation of a paradoxical dialectics of understanding the polar moral qualities given to us in the concepts of I. Kant, V. I. Vernadsky, Teilhard de Chardin and other thinkers seeking to overcome the relativity and conventionality of the mechanism of moral regulation of human behavior.

If we do not form in the child ambivalent attitudes toward the objects, and all objects are viewed by him either as good or as bad, without any smooth transition, and if such a perception of the world is fixed in behavioral patterns – this is a prerequisite for further child's development in the direction of the schizoid type, which is characterized by discrete, aggressive, "cold" emotional perceptions of the world.

It is important that ambivalence as “the balance of opposites” (P. Weinzweig) is the breeding ground for the development of creative personalities, who are paradoxical personalities being characterized by mutually exclusive psychological and behavioral characteristics.

However, on the other hand, paradoxical decomposing effects on the child can lead to the formation of paranoid affect, as Karl Leonhard notes in his book *"Accentuated personality"*.

Similarly, the decomposing effect on the child, according to R. Laing and G. Bateson, can lead to a situation of "double clamp" ("double bond"), which initiates the development of schizophrenia: the situation of double clamp will influence a child when its parents' messages are contradictory on verbal and nonverbal levels, when the child is required both initiative and obedience, when mother could demand the child's affection and at the same time is too cold, sarcastic, when in a school the child due to contradicting factors does not know exactly how it should behave. There is a situation in which any human action or lack of action is inevitably accompanied by the feeling that he is being torn apart.

In this case the individual plunges in so-called *cognitive dissonance* and seeks to free himself from the ambivalent, and therefore paradoxical, cognitive situation through the *distortion of reality*. So, wanting something and not being able to get this thing, people may resort to discredit this thing (which can be illustrated by the Russian fable about "green grapes"), thus distorting the reality.

So, in the field of schizophrenic thinking two opposite cognitions cannot peacefully coexist since the splitting "black and white" human mind with its *binary yes/no thinking* is unable to unite the opposites thus achieving diplasia. This leads to radicalization of man and society which we see in current events, where the *bipolar thinking* is realized in a “mosaic culture.” G. Debord in his book *"The society of the spectacle"* (1971) showed that the contemporary technology of manipulating the individual and mass consciousness can destroy in an atomized man the set of knowledge derived from real life and historical experience. G. Debord traces the development of a modern society in which authentic social life has been replaced with its representation: "All that once was directly lived has become mere representation" when the history of social life can be understood as "the decline of being into having, and having into merely appearing". Thus the spectacle becomes the inverted image of society in which relations between commodities have supplanted relations between people, in which "passive identification with the spectacle supplants genuine activity". Thus, the mosaic culture destroys the irrational (right hemispheric) thinking of traditional society and produces an atomized, splintered reality, which is characterized by a low level of synergy and, therefore, by low life activity.

This bipolar thinking is formed in a contradictory and ambivalent socio-pedagogical influence with the development of left-hemispheric brain – one-dimensional thinking.

In little children being characterized by *right hemispheric* polysemantic, mystical "savage"

way of thinking (oriented on the "reality principle" as Jean Piaget puts it) the discordant influences, as a rule, do not form the split-schizophrenic model of perception and behavior.

However, in the process of intense formation of *left-hemispheric* cognitive strategies enabling to organize unambiguous strictly logical relations in the process of learning and socialization, such contradictory influences often lead to radicalization of the reality due to one-semantic left-brain thinking, that is, to its schizophrenization.

So, it should be understood that the ambivalent effects (with the effect of "double clamp") is a necessary educational resource for younger children (5-6 years old), in which right brain reflection and exploration of the world is dominated. While during the intensive formation of the unambiguous left-brain "splitting" thinking (children of 7-14 years old) such an effect with a "double clamp" can lead to the formation in a person a "splitting" model of schizophrenic perception of the world.

Perhaps it was this last negative result that led to the dominance of the *traditional paradigm of upbringing* due to which the *educational impacts on the children must be consistent and not contradict each other*, when there must not be a discordance between verbal information and extraverbal signals (gestures, emotional reactions), which are received by the child from his parents and other people, otherwise it may lead to serious psychological problems.

If one take into consideration the fact that the development of a personality as a sovereign unique and free entity is implemented in an event-behavioral areas of uncertainty where the personality is nurtured on "the boundaries of educational influences", in contradictory, paradoxical, multidimensional conditions of social life, and for the personality development "black and white" behavioral code and value system are detrimental, so it becomes clear that paradox is one of the main factors of personality formation, and the discordance between the verbal and extraverbal (when there are contradictions between "word and works") just reveals to a man in the true light the dramatic, paradoxical and multidimensional abyss of his cosmo-natural-social environment capable to create the conditions for the formation of a personality being paradoxical entity and characterized by multi-vector nature, being the main feature of creative behavior and activities.

This conclusion does not mean that one should avoid the conditions of concordance of verbal and extraverbal thus specially forming informational-behavioral chaos with the purpose of personality upbringing.

*The new paradigm of preschool education* presupposes involving a combination of coordinated and uncoordinated verbal and extraverbal signals to ensure that the child is able to distinguish between them and learns to exist in such an orderly-disordered environment, uniting chaos and cosmos, sublime and profane, beautiful and terrible...

It is the orientation of the right hemisphere of the child on the holistic polysemantic understanding of reality that leads to integrated, holistic perception of life space in which the child is immersed. In the sphere of this holistic harmonious perception of the world the moral and aesthetic, thought and action, act and intentions incorporate. In this alloy of the holistic life the child is surprisingly sincere and adequate, open to the truth, he clearly feels the mismatch between external requirements and internal reality. This holistically integrated state of the child is realized in the plane of the unity of all polar aspects of the world, truth and beauty, that generates the internal coherence of social processes.

As E. Erikson showed in his book "*Childhood and society*", this upbringing ideology is characteristic of ancient (primitive) communities. Let us explain this conclusion using the provisions of the book by Jean Ledloff ("*How to grow up the child happy. Principle of continuity.*"), who spent several years in the tribes of American Indians, where the relationships between adults and children reveal a complete harmony, which modern civilized society is lacking.

Jean Ledloff came to the conclusion that if we treat children as our ancestors did for millennia, our kids will be relaxed and happy. This book is about how important in the process of raising a child to listen to our intuition, not to the advice of the "experts" in the field of child care since most authors of the books on child care do not know the answer to the question how to raise a happy child, even more – they do not understand its essence. They believe (and make believe the parents)

that the happiness of the child consists entirely in dry diapers, baby food and different toys.

So, we can note the ***following features of Indian upbringing of the children:***

Indian children do not know what punishment is. Therefore, they are unpretentious and not capricious. From birth they are inculcated with respect for adults and proper calm demeanor.

Bans for kids are absent for the adults trust their kids as they trust themselves. The child is just explained the possible consequences of its actions.

Children are quite independent and do not require supervision.

The child is always involved in all the activities of its parents, it watches, it learns.

Too much care for a child is regarded as bad manners because in this case the child begins to fret and show fear.

Children from their early age are present at all adults' activities. They have small copies of the tools and they always join the adult work.

The Indians rejoice when a child has developed an interest in some thing.

Indians have no words denoting time. So familiar to European children, the word "then" is unacceptable for Indian children. Therefore Indian parent reacts immediately to the first requirement of the child.

The tribes have no notion about other people's children: all children of the tribe are equally dear to every adult. The adults do not criticize and do not compare children with each other. They would sit around together and converse on various topics – thus, they express their trust to each other.

***Tibetan system of upbringing*** is quite the same:

*The first period up to 5 years.*

A child should be treated as a king. No banning since any ban only distracts child's attention. If the child commits something dangerous, then the parents should make frightened face and produce a startled exclamation. Any child understands this language perfectly. At this period the activity, curiosity, interest in life are instilled in the child who is not able to build long logical chains so far. For example, the child smashes an expensive vase. He does not understand that purchasing this vase requires a lot of work to make money – so the punishment will be perceived by a child as suppression and expression the position of strength and violation.

*The second period. The age 5 to 10 years.*

At this time a child is treated like "a slave". The adults set tasks and demand their implementation. A child can be punished for failure (but not physically). At this time, we are actively developing intelligence in the child. The child must learn to predict people's reactions to his actions, to cause a positive attitude towards himself and to avoid negative reactions. At this time, adults must not be afraid to load a child with knowledge.

*The third period. The age from 10 to 15.*

Adults must treat the youths as equals. Not on equal footing, but as an equal, because you still have more experience and knowledge. Consult with him on all important issues, provide and promote independence. Impose your will in "velvet gloves" in the process of discussion, hints, tips. If you don't like something, then focus the attention of the boys and girls on negative consequences of their actions, avoiding direct banning. At this time the autonomy and independence of thinking are formed in the children.

*The last period – over 15.*

Adults must treat the youths with respect. It is too late to bring up the young people – you just have to reap the fruits of your upbringing.

What are the consequences of neglecting the above mentioned rules?

If you suppress a child up to 5 years old, you suppress his vitality, zest for life, intelligence, immunity. If you should teach him obey to brute force – you make him an easy prey for scoundrels.



If you continue to lisp to the child after 5, the child will grow infantile, unable to work and express spiritual effort.

If you take care of the child after 10, he will grow dependent on more independent friends.

If you do not respect the youth after 15, he will not forgive you and will leave you at the first opportunity.

### **Conclusions.**

**Up to 6-7** the socio-pedagogical influence on a child must be paradoxical and ambiguous (the dominance of right hemisphere).

**From 7 to 14** the socio-pedagogical influence on young people must be strict and "one-dimensional" (the dominance of left hemisphere).

**After 14** the socio-pedagogical influence on young people must be "one-dimensional" and "multidimensional" simultaneously (the state of hemispheric harmony): as electroencephalographic research shows the hemispheric functional harmony is revealed in the state of meditation and creativity [5] being the major purpose of man's development.

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