

Vygotsky and Developmental Psychology in His and Our Time

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This article reflects the lecture that was given by the author to the students and young researchers participating in the ISCAR seminar (MSUPE, Pavedniki, 2011). The author draws a distinction between the classical and non-classical paradigm in the exploration of child development and carries out a comparative analysis of the solutions to the key issues in child psychology (such as the patterns, conditions, forms and sources of development) provided within the cultural-historical theory and the theories of the most prominent Western schools of thought (psychoanalysis, behaviourism, cognitive psychology). The author also outlines the challenges in developmental psychology that had been in the focus of attention of Vygotsky's disciples (Moscow school of cultural-historical psychology) throughout the second half of the twentieth century. It is further revealed that cultural-historical theory has been established in close relation to the practical tasks of educating children on different stages of ontogenesis.

Keywords: classical psychology, non-classical psychology, natural science paradigm, cultural-historical paradigm, activity and action, learning and development.

The revolution in the developmental psychology

Vygotsky caused a real revolution in the developmental psychology. He has created a base for absolutely new **non-classical psychology**. Its essence consists in the following: Primary forms of affecting-semantic formations of human consciousness exist objectively out of each separate person, exist in a human society in the form of creations of art or in any other material creations of human beings, these forms existed before than individual or subjective affecting-semantic formations have appeared. The recognition of their objective existence out of individual consciousness is an extreme breakthrough in psychology. «They initially exist not in me, not inside me, ...and exist under specific laws in the objective reality, in a society, in its life, in its creativity. And any separate individual who enters the social life, finds them there and appropriates them» (Elkonin, 1989, p. 477–478). Vygotsky is the founder of nonclassical psychology, the one which represents how a subjective world of an individual is born from the objective world of art, from the world of production tools, from the world of industry. These words were spoken by D. B. Elkonin during his speech at the Academic Board of Defectology Research Institute of the Academy of Pedagogical Sciences of the USSR in 1984 with reference to the 50th anniversary of L. S. Vygotsky's death. However, this term started being actively used only in the beginning of XXI century. Since then many scien-

tists put another meaning in it, a meaning far off from the initial one. The term is most frequently used as a synonym of the postclassical psychology which leads to misrepresentation of its content.

A scientific revolution (a «geological-scale» cataclysm) in the developmental psychology has led to a new understanding of the source, form, course, conditions, specificity and motivational forces of the psychical development of a child. In his description of the stages of child development and the transition from one stage to another, he revealed and stated the basic laws of child psychological development. It is not an exaggeration that Vygotsky has reconstructed psychology on the basis of profound philosophical analysis. The following questions were very important in Vygotsky's point of view: How does a human being overcome the scope of his animal nature when developing? How does he develop as a cultural and working being in his social life? According to Vygotsky the human being has created new motivational forces for his behavior in the course of his historical development and in response to constantly changing natural and social needs. He described the stages of child development and the transition from one stage to another. He revealed and stated the basic laws of child mental development.

Vygotsky was the first who introduced **the historical principle in psychology**. He wrote: «Up to now, the idea of historical psychology has widely tended to be conceived in the false light. Many psychologists identi-

fy history with the past. For them, a historical investigation necessarily means an investigation of one of the facts of the past.

«It is a naive understanding to see an impenetrable wall between what is historical and what is in the present form. In a historical study a past developmental phase is applied to an investigation of a current phenomenon. In other words, to historically study something, is to study it in motion. This is the main requirement of the dialectical method» (vol. 1, p. 62). He wrote: «Each form of cultural development and cultural behavior is in a certain sense the product of the historical development of humanity. The transformation of natural material into historical form is always a complex developmental process of change in form rather than a simple organic maturation».

A real revolution in the developmental psychology, made by L. S. Vygotsky, consists in introducing a *new paradigm* in this science. Classical, the naturalistic position embraces the big traditions in psychology. The psychological development studies within the framework of nonclassical, cultural-historical paradigm are not so numerous and it is probable that not all of them are known among the psychologists in Russia and abroad. The task of modern psychologists is to assess and to implement our heritage of nonclassical psychology.

Vygotsky and the Western developmental psychology of his time

Let us compare naturalistic and cultural-historical paradigms in developmental psychology. All theories of child development in Vygotsky's time considered developmental processes from a biological point of view. It is striking to see different Western psychologists give the same answers to questions relating to the central parameters of development.

The subject of investigation. In Western theories *Motivation, Intellect, Behavior* are studied by the main psychological schools: psychoanalysis, cognitivism (Piaget's theory), and behaviorism. In Vygotsky's theory, *the psychology of consciousness* is the domain of investigation. He believed that human consciousness is not a sum of separate processes, but a system, a structure of mental processes. Vygotsky placed psychology of consciousness at the top of the pyramid and even contrasted it with them.

The course of development. In Western theories it is a process of transition from the individual to the social life. Therefore, the central problem for Western psychology is *socialization*, i. e. the transition from a biological being to a social one. In Vygotsky's theory the course of development is a process of transition from the social to the individual mental life. This course is *individualization* of mental functions. Higher mental functions initially appear as a form of collective behavior of a child, i. e. behavior in collaboration with other people. Then these functions become individual mental processes.

The conditions of development. In Western theories, *Heredity* and *Environment* are the main conditions of development of a human being. In Vygotsky's theory, *the morpho-physiological features of the brain and communication* are the conditions of development. Leontiev (1959) described the conditions for this development in more detail. These conditions must be initiated by a subject's own activities. These activities appear as answers to needs. These needs are not innate, they are created. The first is a need to communicate with adults. Communication is established by interaction with objects and by the use of language.

The source of development. In Western theories it is *inside the individual, within his nature*. In Vygotsky's theory it is *outside of individual, in the culture of society*. The environment is a source of development of mental functions. The human being is a social being, and without interaction with society cannot develop his abilities. The influence of the environment is determined by the person's experience («key experience»). The relationship between the child and its environment changes with age, as does the role of the environment in the child's developmental changes. Therefore, the environment should be considered as relative, because the influence of the environment is determined by the child's experience.

The form of development. In Western theories, *development is an adaptation to the environment*. Consequently, there is almost no difference between child's and animal development. In Vygotsky's theory, biological development refers to the adaptation to the nature by means of the hereditary features of the species and by means of individual experience. A child development does not obey biological laws as animal development does. It obeys socio-historical laws. A human being has no innate forms of behavior. His development takes place through the *acquisition of historically created forms and modes of activity*.

The causes for mental development. In Western theories, it is the convergence of *two factors*: heredity and environment. In Vygotsky's theory, the causes for mental development are the child's *learning and education*, i. e. learning with the help of adults or other children. «Education goes in front of development» — he wrote. In Western theories education = development (behaviorism); first development and then education (Piaget's theory); development as education and development as maturation (Koffka's theory). In Vygotsky's theory, *education* is necessary for the development of human historical characteristics. Education is not the same as development. *Development* is characterized by inherent laws of self-expression, self-movement. As development unrolls, the new qualities, which don't exist in a ready form during an earlier stage, emerge. *Education* creates a zone of proximal development. The zone of proximal development is now a concept that is known all over the world. It has theoretical value and is associated with fundamental problems of child and pedagogic psychology and, especially, with the problem of development of higher psychic functions, with the prob-

lem of relationship between education and intellectual development and motivational forces and mechanisms of psychic development. The zone is related to the law of formation of higher psychic functions. The formation of higher psychic functions takes place in the zone of proximal development and, once formed, is characterized as the actual development of the child. One phenomenon of the zone of proximal development is its emphasis on the central role of education in intellectual development. Vygotsky studied the relationship between education and development by doing research on everyday life and scientific notions; learning native and foreign languages; and on spoken and written language.

We can see from the comparison that all the theories of child development in Vygotsky's time considered developmental processes from a naturalistic point of view. In spite of the difference between the theoretical systems referring to studies of different domains of human personality (motivation, intellect, behavior), the Western psychologists gave the same answers to the questions relating to the central parameters of development.

Vygotsky and the developmental psychology of our time

Some actual problems of developmental psychology in our time:

1. Vygotsky's hypotheses about the system and sense structure of consciousness
2. The problem of development of generalizations
3. The idea of «key experience»
4. The system approach to investigation in child development
5. The concept of «zone of proximal development»
6. The relation between education and development
7. The concept of psychological age as a unit of analysis of child development
8. Method of scientific investigation of mental development, etc.

Psychologists in Vygotsky's Footsteps

Vygotsky's hypotheses about the system and sense structure of consciousness serve as proof for the influence of education on development. In his theory, consciousness is not conceived as the sum of the separate psychological processes of perception, memory, attention and thought. At any age, the center of consciousness is formed by one psychological process that receives the best conditions for its development. With the adoption of this idea, Vygotsky opposed the idea of functionalism. He believed that human consciousness is not a sum of separate processes, but a system, a structure of processes. No function develops in isolation, its development depends on the structure to which it belongs and on the place it occupies in that structure. So at an early age, perception is at the center of consciousness, at

preschool age it is memory and at school age it is thought. Psychic development consists of the reorganization of the structure of consciousness and is dependent on changes in its structure, i.e. on the level of development of generalization. The changing of the structure of consciousness is the development of consciousness. But how do we bring about these changes? No teaching can directly create changes in the structure of consciousness. Entering consciousness is only possible through speech. The transition from one consciousness's structure to another is accomplished by development of generalization. During education, the child acquires generalizations (syncretis, complexes, concepts), which eventually lead to changing the structure of consciousness. Vygotsky argued that generalizations are formed because of the speech communication, he wrote about the unity of generalization and communication.

Although Vygotsky's conception about the system and sense structure of consciousness possessed great potential, it had three shortcomings. First, consciousness was evolved in a cognitive way and there was no room for emotion and motivation. Second, the process of development of generalization was limited to the functions of verbal interaction and communication. This was why Vygotsky, while still being alive, was called an idealist. And, the third was the lack of empirical data to support his ideas. Modern psychology in Russia has attempted to cope with these shortcomings.

The origin of activity theory. A. V. Zaporozhcz have shown that development of generalizations are based on a subject's action rather than on verbal communication. His investigations have shown *the important role of activity* («deyatelnost» in Russian) in human development. A. V. Zaporozhcz guided the development of an educational system for preschoolers, which is based on the idea of amplification of child development. Amplification means creating the opportunities for a preschooler engaging in a variety of age-appropriate activities fostering development, such as play, drawing, construction, attending to fairytales, elementary labor, interactions with adults and peers, etc.

Activity theory. A. N. Leontiev discovered the central role of a child's activity in the psychological development. In «deyatelnost», the child itself is the source of its own development. Without the activity of a child, the effort of an adult is meaningless. This discovery of the central role of a child's activity in its own psychological development offers the only way out of the two-factor problem, i.e. the convergence of hereditary and environment. The child develops himself, but its activity has sociocultural origins (as Vygotsky said). This problem has not yet been solved in Western psychology.

A. N. Leontiev introduced the notion of leading activity: an activity that is specific to a given age and in which all major developmental outcomes emerge. In other words, it is the activity that is most important for development in a given age (e.g., emotional interaction with adults in infancy, play in preschool age). This idea resulted in a great number of empirical studies on leading activities of different ages. The idea of leading activ-

ity naturally led to a more elaborated stage theory of development, where each developmental stage corresponds to a certain type of leading activity: emotional interaction in infancy, instrumental activity in toddlerhood, play in preschool age, learning activity in school age, interpersonal interaction in early adolescence, occupational training in late adolescence.

A. N. Leontiev's theory was used to develop the programme «Origins. Basic program to foster preschoolers' development».

Problems of the ontogenesis of communication activity. M. I. Lisina focused on the development of communication as a specific type of activity. She described four stages of this development occurring between birth and school age:

- One-to-one emotional exchange with adults bound by a specific situation «here and now» (e.g., physical and eye contact, smiling)
- Cooperation, or joint activity, referring to specific objects and bound by a situation (e. g., learning to use a spoon, playing coo-coo)
- Communication for the purpose of gaining knowledge and understanding, going beyond «here and now» (e.g., asking adults questions like «why?»)
- Interpersonal exchange with adults and peers going beyond «here and now» (e. g., being interested in what parents do at work, in one's own and others' personalities).

Drawing on this theory, E. Smirnova, S. Mesheriakova, L. Galiguzova developed the educational programme «Steps of communication» for toddlers. It is based on using age-specific types of communication (described by M. I. Lisina) and leading types of activity (described by A. N. Leontiev) to foster development.

The development of personality. Whereas L. S. Vygotsky focused on cognitive development mediated by cultural tools, L.I.Bozhovich studied emotional and personality development using his approach. She argued that human needs and emotions are complex phenomena that emerge late in development and are also mediated by cultural tools. L. I. Bozhovich described the idea of «key experience» as follows: «The concept of the key experience of Vygotsky is the most important psychological reality. The analysis of experience has to begin with the study of the role of the environment in the development of the child. Key experience consists of all the different influences from both the internal and external circumstances».

On the basis of her theory, N. I. Gutkina developed indicators of motivational development in childhood and criteria of school readiness. In particular, school readiness includes school-appropriate motivation (curiosity, a readiness to take on a socially structured and approved position of student).

The problems of cultural mediation. L. A. Venger developed the ideas about mediation in perception and thinking. L. A. Venger investigated cultural mediation in perception and thinking. He suggested to foster perceptual development in small children using sensory etalons (sample forms, colors, sizes). The success of this

approach illustrates the function of cultural tools in cognitive development. He also developed a new system to test intellectual development in preschoolers. It tests children's ability to use external sensory tools, markers, models or schemes to solve perceptual, memory, and logical tasks. His students O. M. Dyachenko, T. V. Lavrentyeva, etc. created an educational program for preschoolers called «Development».

Activity and action. P. Ya. Galperin devoted his work to the analysis of object-action structure and its formation. He divided the action into two parts: orientation and execution. This marked the beginning of productive investigations in the child's functional development (of mental actions, concepts and images). He studied psychological processes from the point of view of their origins and development. He constructed the method and the theory of step-by-step formation of the mental actions and concepts.

Every subject's action includes two parts: orientation and execution. The orientation of action serves as the psychological mechanism of any action. The execution depends on the orientation. The orientation may be either full or not. If we can find conditions for construction of sufficient (full) orientational basis of action, a pupil will solve the task without mistakes from the very beginning and all the time later. His theory enabled Russian researchers to build a system of developmental education (Zaporozhnetz, Talyzina, Elkonin, Davydov etc.).

The structure of human action. D. B. Elkonin hypothesized on a complex structure of human action: besides the orientation and executive aspects, the sense of actions has to be determined also. Each action is done for others. Elkonin described two sides of human action, one directed at the society and the other at the human mode of its realization. Elkonin's conception of action solves the Western psychology's problem of dividing the world into objects (Piaget's theory) and human beings (Freud's theory). Elkonin assumed that human action has two sides: the sense and orientation sides. Strictly speaking, in the human world there are no true physical objects; there are only social objects, which meet socially formed and developed needs. Even objects of nature are imbedded in social life. Human beings use objects within their socially structured life. Thus, each object presumes the presence of a human being. So far, there are two sides of human action, one directed at the society, a social subject, and the other at the human mode of its own realization, a social object. This microstructure of human action is reflected in the macro structure of ontogenetic developmental stages also described by Elkonin. For Elkonin, the process of development starts with the formation of motives and needs, then the operational and technical aspects of an action follow. During development the alternation of motive-need and operational-technical aspects of the activity takes place.

Problems of developmental education. V. V. Davydov suggested the concept of developmental education, fostering the development of *theoretical* as opposed to *empirical* thought. Theoretical thought involves

understanding of origins of any concept or idea, whereas empirical thought takes the concept or idea as given. V. V. Davydov argued that traditional education was based on S—R formula, wherein the student was conceived as a passive recipient of knowledge. In contrast, developmental education fosters self-directed learning: the teacher supports the students realizing the problem and finding its solution via creative thinking, group discussions, etc.

All the mentioned studies filled the gaps in Vygotsky's theory. Theories constructed by A. N. Leontiev, L. I. Bozhovich, A. V. Zaporozhetz, D. B. Elkonin overcome the two shortcomings of Vygotsky's study of the structure of consciousness: idealism and cognitivism. The third shortcoming, the lack of empirical support, was overcome by Galperin and his collaborators. They analyzed well-known Piagetian phenomena and demonstrated that the step-by-step mental action formation on the notion of conservation of physical values does indeed lead to a change in the cognitive processes of memory, imagination, perception and speech.

L. S. Vygotsky is not alone in psychology. His followers elaborated the cultural-historical theory on the conceptual level and included his ideas in practical education. In the present overview, the first generation of L. S. Vygotsky's followers' concepts are reviewed. The works of the next generation of Russian scholars of the cultural-historical theory of developmental psychology (V. V. Rubtzov, A. L. Venger, G. A. Zuckerman, B. D. Elkonin, E. E. Kravtsova, T. V. Ahutina, etc.) are worth a special publication.

An illustration of Vygotsky's ideas in empirical investigations (fragment)

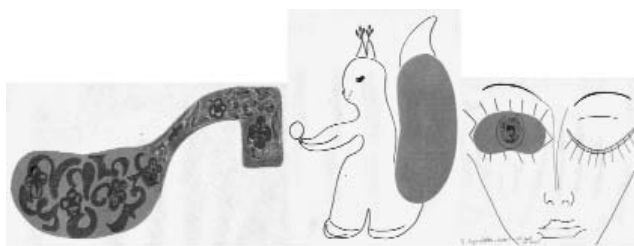
Method of scientific investigation of mental development. According to Vygotsky, «the problem of a method is begging and the basis, alpha and omega for all history of child cultural development» (Vygotsky, 1983). All psychological methods, he wrote, applied in experimental researches up to now are created on one principle: STIMULUS. In such studies there are no differences between human and animals behavior. As Vygotsky thought, «this method does not take in account qualitative difference between history of human and history of animals» (L. Vygotsky, 1983). He wrote: «If we want to investigate inner structure of psychological process we can't use S-R methodology. We should give a child an instrument (tool), which would play a special role — the role of organization of his own behavior» (L. Vygotsky, 1983) Vygotsky proposed a new method that could be named **experimental-genetical**; according to this method a researcher should create genetic process of development in specially created artificial laboratory conditions. With no doubts, the idea of arranging experiments as a method of psychology belongs to Vygotsky, however, P.Ya.Galperin elaborated this method in details and used it in various experimental settings.

One of the examples is «The solving of the open tasks». The goal of this experiment is to create a system of conditions which will allow to gain many solutions for a divergent problem «Drawing pictures». An orange bean was used for stimulus and preschool children were asked to draw as much as possible pictures from this form.



Two very important ideas of Vygotsky were used in this experiment: the concept of «an ideal form» and «the technique of double stimulation».

The ideal form, by Vygotsky's point of view, is «*the developed form which should appear in the end of children's ... final, or ideal, — ideal in the sense that it is the sample of what should appear in the end of development*» (1933—1934). In this experiment the ideal form — drawings of adults — opens possibility to find the qualitative criteria of success in the decision of divergent problems by adult participants. For example:



Adult's pictures

In adults we can observe the creativity for a variety of solutions, an ease in using different techniques to complete the drawing, and transition from common to rare responses. Once we had an idea of a potential «ideal form», based on how an adult solved a divergent problem, we endeavored to introduce the preschoolers to this form by creating particular conditions. Hence, the next task in the experiment was a more thorough experimental study to determine what these conditions should be.

New variety of the technique of double stimulation was constructed. We created a special instrument (tool) — «magic windows». This served as a material means for organizing the children's thought in tackling divergent problems. It consisted of two circles; a window was cut in the top one, and the bottom one was divided into sectors. (Picture I). Set of magic windows includes different experience of a child: spatial, perceptual, emotional, situational, fairytales, gaming. In the first window (spatial experience), test figures were arranged in different positions. The second windows displayed different backgrounds for the pictures: *white, pink, blue and green*. The next window evoked the children's perceptual experience. The following words were written: *tasty, big, small, heavy, light, warm, cold, loud, quiet*. Words such as *happy, sad, good, evil, nice, bad* were placed in the «emotion-

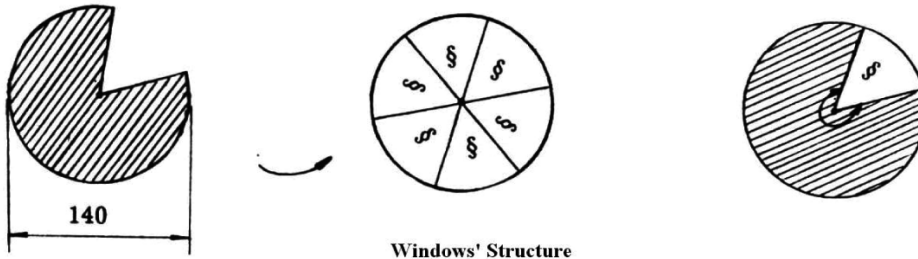
al window». The next magic window was for everyday situation: you are at home, in the shop, on the river, going for a walk, in summer, and in winter. The next window contained stories about animals, stories with magic transformations, and stories about adventures of little people from a fairy tale. Play situations were created using the last window. The children assumed the roles of different animals: mice, foxes, rabbits, a wolf, etc.

Magic windows helped the child to find the solution. As the result of such teaching preschool children could make many different pictures.

This study demonstrates the necessity of special tools for an intellectual task solving. Tools are not given to us by chance; it requires scientific investigation to find them. It is really a challenging process to find out the tool which could help a child to develop and to find conditions in which the child would need them by himself.

But let us come back to Vygotsky and once again cite his words. He wrote: «If we want to investigate inner structure of psychological process we can't use S-R methodology. We should give a child an instrument (tool), which would play a special role – organization of his own behavior».

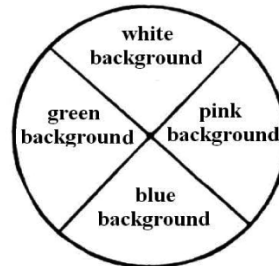
"MAGIC WINDOWS"



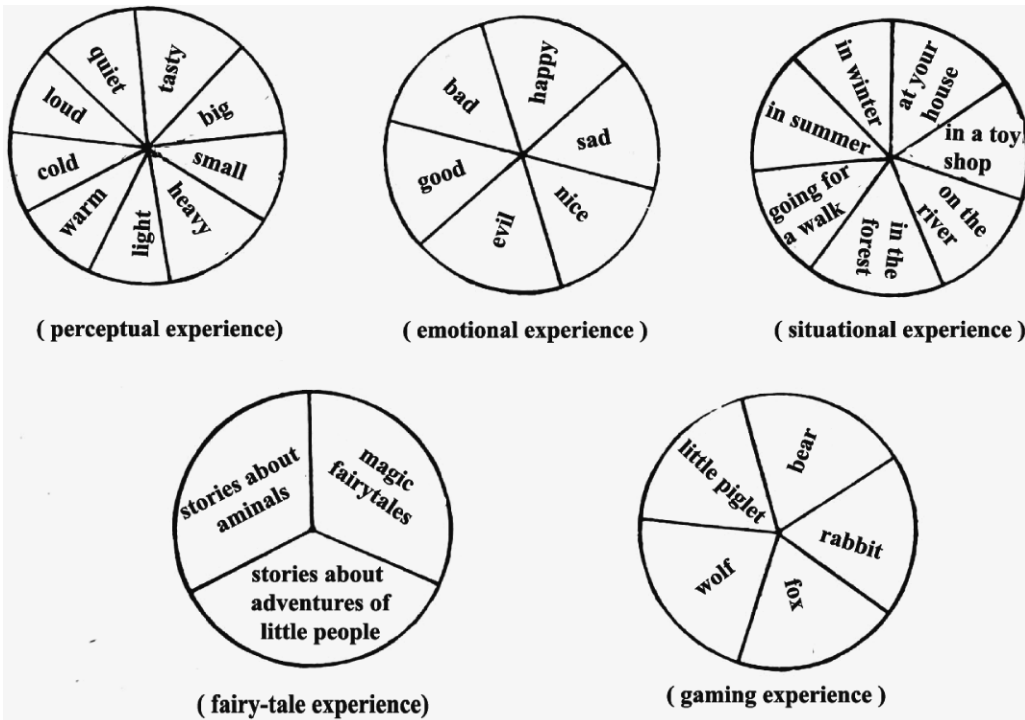
Windows' Structure



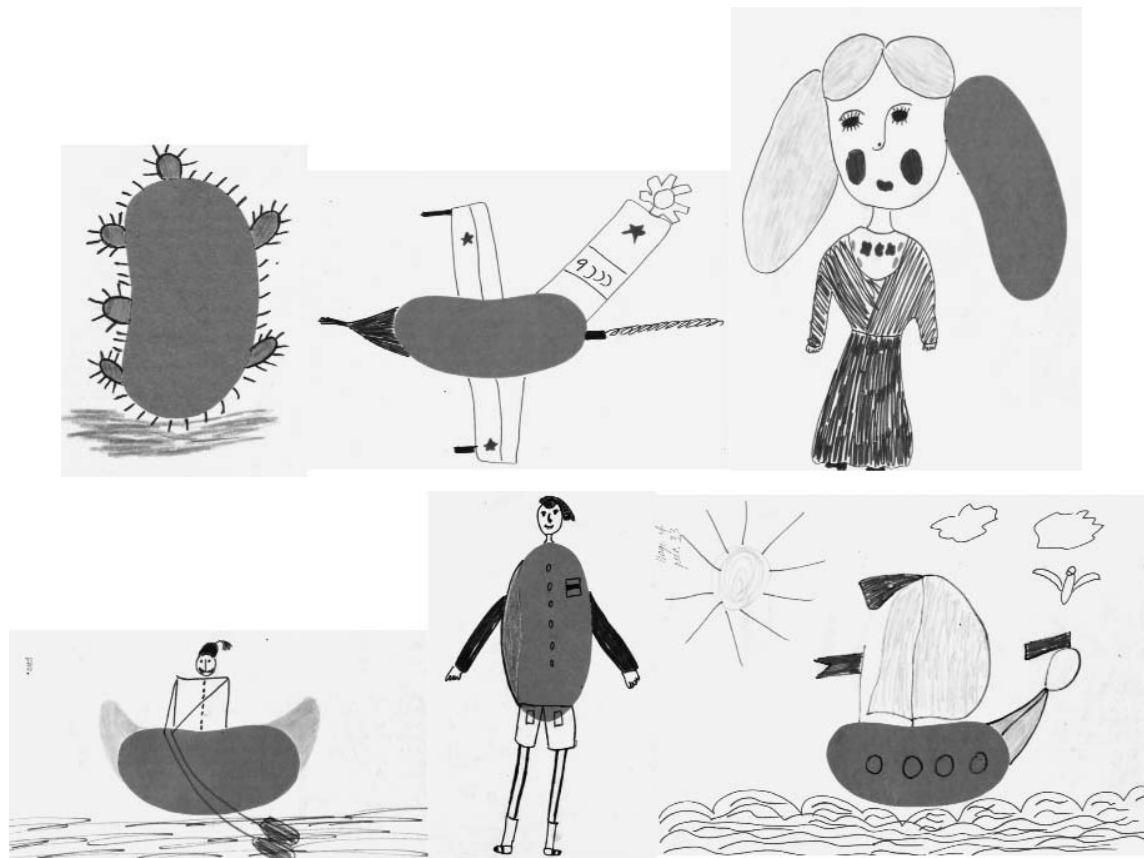
Spatial Experience



Visual Experience;
Colour Background



Picture I. «Magic windows»



Picture II. Preschool Children's pictures

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Выготский и психология развития в его и наши дни

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В статье представлено содержание лекции, прочитанной для магистров, аспирантов и молодых ученых, принимавших участие в научном семинаре молодежной секции ISCAR (МГППУ, Паведники, 2011). Показано различие классической и неклассической парадигмы в исследовании психического развития ребенка. Проведен сравнительный анализ ответов на ключевые вопросы детской психологии о пути, условиях, источнике, форме, причинах развития в культурно-исторической теории и теориях крупных западных психологических школ (психоанализ, бихевиоризм, когнитивизм). Перечислены актуальные проблемы психологии развития, разработка которых осуществлялась учениками и последователями Л. С. Выготского в московской школе культурно-исторической психологии во второй половине XX века. Показано, что разработка культурно-исторической теории осуществлялась в тесной связи с решением практических задач обучения и развития детей на разных этапах онтогенеза.

Ключевые слова: классическая психология, неклассическая психология, естественнонаучная парадигма, культурно-историческая парадигма, деятельность и действие, обучение и развитие.