*articles* Retrieved from: http://www.stattionline.org.ua/pedagog /80/14086-samorealizaciya-pedagoga-yak-psixologo-pedagogichna-problema.html [in Ukrainian].
3. Kerivnytstvo metodychnoyu robotoyu u vyshchomu navchalnomu zakladi [Management methodological work in higher education] National Pedagogical Dragomanov University. Retrieved from http://npu.edu.ua/!e-book/book/html/D/ispu_kiovist_Ficyla_Pedagogika_VSh/1120.html [in Ukrainian]
4. Navchalno-metodychna robota [Educational and methodical work] // Yuriy Fedkovych Chernivtsi National University Retrieved from http://ped.chnu.edu.ua/?page=ua/11navchalnometod [in Ukrainian].
5. Sokolova, I.V. (2001). *Tekhnologiya organizatsii metodychnoi roboty u VNZ [Technology of organization of methodical work in universities]*. Kyiv: VIPOL [in Ukrainian].

***Podgorna Viktoriia***

## MOTOR CORRECTION OF THE PSYCHOPHYSICAL STATE OF PUPILS WITH DEVELOPMENTAL DISORDERS

*Ushynsky University,*
*Odesa, Ukraine*

***Abstract.*** *The article defines the directions of motor correction of the psychophysical development of children who will go to school with a wide range of medical diagnoses: with minimal brain dysfunctions (hyperactivity and attention deficit), different degrees of oligophrenia, mental retardation, cerebral palsy, speech impairment, difficulty in training, etc. The concept of "motor correction of psychophysical development" is specified in the work. It is established that it is inextricably linked with the achievement of the proper level of functioning of the central nervous, respiratory and muscular and skeletal systems, which allows children with disabilities to master a school curriculum without harm to their health. The concepts of "psychophysical development", "morphofunctional provision of psychophysical development" in relation to children with health disorders are characterized.*
***Keywords:*** *disorders of development, young schoolchildren, motor correction, morphofunctional state, inclusive physical culture.*

***Introduction.*** The reform of education (Law of Ukraine "On Education", National Strategy for the Development of Education in Ukraine for 2012-2021)

makes an emphasis on the psychophysical development of children as a prerequisite for the successful mastery of a program of study at school. Particular attention should be paid to the children who go to school with various developmental disorders, covering a wide range of medical diagnoses: children with minimal cerebral dysfunction (hyperactivity and attention deficit), different levels of oligophrenia, mental retardation, cerebral palsy, speech impairment, with difficulty in learning, etc. The need to find new approaches and directions of the work of a modern school to develop such students physically and mentally is noted in the Concept of the Development of Inclusive Education. The social significance of this problem, its insufficient scientific and theoretical elaboration predetermined the choice of the subject of the study.

***Analysis of recent publications.*** In recent years, many scientific studies have been carried out in Ukraine and they confirm the correlation between motor development with various components of the general development of children (O. Dubohai, M. Yefymenko, Yu. Liannoi, B. Sermeiev, B. Sheremet, etc.). Scientists have revealed the peculiarities of motor skills of children with visual impairment (A. Andrasian, V. Vertuhina, V. Kovylina), hearing (A. Ivakhnenko, N. Leshchyi, O. Forostian); with mental retardation (V. Weizman, O. Lytovchenko), with defective muscular and skeletal system (S. Kholodov, O. Chebotariova). The authors believe (and it is the evidence of statistical data) that traditional conventional psychological and pedagogical methods in many cases ceased to bring the desired results both in the learning process and in the course of the correction. The results are not achieved in full, because in the modern population of children systemic disorders of psychophysical functions with a large number of mosaic, outwardly divergent defects predominate. Thus, A. Semenovych notes that the general population dysonotogenetic pattern is becoming more polymorphic and is not always subject to traditional methods of correction [6].

Therefore, ***the purpose of the work*** was to determine the ways of motor correction of the psychophysical state of students with developmental disorders.

***Materials and methods:*** the method of analysis, synthesis and systematization of scientific research.

***Results and their discussion.*** The biological need for movement is genetically engineered in a child. It is movement that is the main system-forming factor, which triggers other mechanisms of life support of a growing child, stimulates virtually all types of its activities. The structural and functional features of the motor analyzer are due to the fact that it has extensive connections with all the central nervous system (CNS) and participates in their activities, which makes it possible to assert that motor activity is of particular importance in the development of joint brain activity. The correlation between motor and mental activity is confirmed by studies of domestic and foreign

pedagogical theory of the correlation of physical and mental spheres of development, which consists in their morphofunctional provision [1; 3-6; 8].

Many studies dwell on the theory that motor activity is the result of the establishment of individual, constitutional, as well as related to gender and age characteristics of motor reactions of a person. It is believed that the motor sphere is closely related to the phases of the formation of physiological bends of the spine [6]. A. Zaporozhets (1964) pointed out that in the body of the newborn the leading system is skeletal and muscle one, and all the others are developing consistently and they depend on it. The bone and muscular apparatus due to the development of the movement creates the preconditions for normal development of a child, which is realized by numerous physiological systems.

There is a large number of experimental facts confirming the differences in the structural and functional organization of the psyche and brain of the children who have various disorders in physical development, including disorders in the bone and muscular apparatus [5]. Domestic and foreign scientists have characterized typical violations of the motor system, which are associated with various defects of the muscular and skeletal system, and determined the logical relationship between posture violation and neurological deviations, which indicate malformations of the development of the spinal cord or brain that affects the development of the mental sphere of the child [1; 5].

Great importance for the formation of motor and mental spheres is given to the birth trauma of the vertebral arteries. The system of vertebral arteries provides the blood supply to the basal parts of the brain and has many branches. Therefore, even a small deformation of the cervical vertebrae can lead to disturbance of blood supply, and under certain conditions can lead to spasm of the arterial bed and cause various pathologies in the development and functioning of the brain [1].

The consequences of insufficient blood supply and disturbance of liquor-exchange can lead to the appearance of various organic lesions of the brain, lung brain dysfunctions (LMD), affect the inclusion of flexible bonds that provide the formation of speech-auditory functions, verbal memory and attention that may ultimately lead to various disorders of the development of higher CNS functions. [3; 8]. There can be certain complications in the work of internal organs, whose functioning is directly related to the spinal cord and nerves passing through the intervertebral holes [1].

In case of abnormal posture, in the first place suffers an adequate correlation of muscle tone, including respiratory muscles. As a result of the latter there is a decrease in many parameters of the function of external respiration [1].

Depending on which department of the respiratory system has pathological processes, there are the following forms of insufficiency of pulmonary respiration: obstructive – bronchial patency is difficult; restrictive –

a violation of the ventilation capacity of the lungs, which is the result of processes that limit the straightening of the lungs. There may be changes in the chest in the form of its deformation or sedentary (kyphoscoliosis, Bekhterev's disease) [5].

Violation of the synchronization of the rhythm of breathing is one of the earliest indicators of dysfunction in the body. The rhythms of breathing, the nature of the respiratory movements reflect the mechanisms of adequate adaptation of a person to the changing conditions of the organism's existence. On the other hand, it reflects the activity of the rubrospinal level of movement regulation, which M. Bernshtein identified the most ancient in phylogeny and mature earlier than others [2].

The rhythm of breath provides the unconscious, involuntary regulation of the tone of the body's muscles using the proprioreceptor. As mechanisms that lead to difficulty breathing in case of abnormal posture, the weakness of the respiratory muscles and especially the diaphragm, dysfunction of the vertebral articulation and vertebral-motor segments are most often considered [5].

The management of respiration involves both stem and subcortical, cortical sections of the brain. The possibility of conscious control of breathing is associated with the cortical mechanisms [9].

Breathing through the nose affects blood supply to the brain, because every half of the nose is associated with nerve endings with the hemisphere of the brain. During an inspiration, nerve endings are irritated through the nose, excitation is transmitted to the corresponding cerebral hemispheres, reflexively causing moderate increase in cerebrovascular vessels, while during exhalation – a decrease [7].

Violation of the mechanism of respiration leads to a change in gas exchange in the tissues of the brain, blood circulation, functioning of the brain, manifested by various symptoms from the psyche, consciousness, behavior, perception. The emergence of certain cerebral disorders, the change in some of the phenomena of consciousness violate the adequate human contact with the environment. Violation of communication with the environment to a large extent misplaces the person, disrupting his behavior. Changing mental functions leads not only to the problems of interaction with the external environment. There is some imbalance in the internal environment of the organism. Restructuring, the emergence of another, pathological structure of cerebro-somatic bonds is probably a specific mechanism for the emergence of unusual variants of cerebro-vegetative, cerebro-visceral (including cerebrovascular) and cerebro-motor relationships. It is important to emphasize that such psychosomatic arrangements are only an isolated case of a wider modified socio-psycho-biological unity continuum. Against this unity, respiratory disorder acts as a specific provocateur, initiates a pathological shift in interconnected systems in the context of disturbed development.

The analysis of special literature allowed to determine psychophysical development as a biosocial process of formation of complex functional systems, which combines several independent functional units with subordinate interdependent characteristics, formed in certain periods of child development.

Under the motor correction of psychophysical development in our work we should understand the promotion of the accumulation of individual sensomotor experience, characterized by peculiarities of the solution of motor tasks due to the specificity of biological maturation of the morphofunctional structures of the central and peripheral nervous system, the state of the bone and muscular system and respiratory apparatus, which are subjected to pedagogical influence.

Under the morphofunctional provision, we understand the achievement of the proper level of functioning of the central nervous, respiratory and muscular and skeletal systems, which allows younger students with developmental disadvantages without harm to health, and also without excessive strain to master the school curriculum.

Undoubtedly, the muscular and skeletal system, respiration and sensor motor skills are not the only systems that underlie psychophysical development, but if we ignore the mediated connection, these systems are the energy base of motor correction of the psychophysical state of disadvantaged pupils development. The fact is that any disturbance in development begins with violations of the formation of the basic components of the psychophysical state (muscular and skeletal system, respiration), for which the most ancient structures of the brain (those that are formed before the other and are the basis for further development). Insufficient development of basic systems can slow down or distort the formation of later ones which are responsible for higher mental functions.

In our opinion, in the context of school education, the correction process should be based taking into account the facilities of an educational institution, which already has the means available to it, namely: physical education lessons.

The first step towards the intensification of psycho-physical development should be the formation of its basic level, which is impossible without appropriate optimization of perception, memory and elimination of many adverse signs (hyper and hypotonic, syncinosis, pathological rigid body units, etc.). Everything that is in the children with developmental disorders is primarily a consequence of the same neuropsychological radical: insufficiency of subcortical brain formations and inter-medial interactions.

Exercise complexes which are focused on optimization of the first functional block of the brain (level of stabilization, activation and power supply

of psychological motor skills) can be included in the preparatory part of the lesson. The target of the correction includes subcortical and stem formation of the brain. In our opinion, for the correctional effect, we must use: self-massage of hands, fingers; differentiated breathing exercises, as well as exercises for correction of the spine, which promotes the activation of large cerebral hemispheres. With the condition of differentiated use of the latter effectively correction of different types of violation of posture is carried out.

Supporting the ideas of E. Symernytska, we believe that in the process of PE lessons teachers should use a system of exercises which are oriented to the formation of arbitrary self-regulation, that is, the intention is directed from the third (block of programming, regulation and control activities) to the first, then to the second (block of reception, processing and storage of information) and again to the third functional brain block. First, in the passive, reproductive version of the reflection and repeated reproduction of the child of the correct patterns, then – in the active version, when the schoolboy himself, without any help, implements and creates algorithms of arbitrary self-regulation. For example, a child using no additional means will unknowingly control the tone of his body and the rhythm of breathing, to maintain their own affective reactions. This requirement should be considered the leading one, which solves the corrective tasks in the process of physical education.

In the main part of the lesson along with the exercises that are in the curriculum it is expedient to perform exercises aimed at stimulating the second functional block of the brain (for coordination of movements). The development of dexterity is inseparable from fast (time-limited), precise and coordinated movements in conditions of complex spatial orientation. Composite components of this kind of occupation can be running, jumping exercises, as well as exercises involving small movements of hands and fingers (using large and small balls, gymnastic stick, rings, etc.). Serial organization of movements is solved in more complex physical exercises, such exercises contribute to the formation of reciprocal interaction of hands.

The final part of the lesson includes outdoor games for the development of gnostic-praxis functions, as well as self-massage of the feet using a rough surface (bags filled with small objects or seeds).

***Conclusions.*** The analysis of special literature has made it possible to argue that working with children who have a developmental disability requires knowledge of the cerebral organization of the child's psychophysical activity, as well as an understanding of which “levers” need to be pressed to run the recovery program.

It was revealed that the main directions of motor influence on the psychophysical state of children are related to the restoration of the functioning of the central nervous, bone and muscular and respiratory systems.

It is determined that means of motor correction include the following: massage and self-massage of hands and feet; spinal stretching exercises and posture correction; breathing exercises, outdoor games. The offered means can be effectively used in a lesson of physical education in both special and comprehensive schools.

*References translated and transliterated*

1. Yefimenko, N. N. (2007). *Korrekciya narushenij rechevogo razvitiya v «Teatre fizicheskogo vospitaniya i ozdorovleniya detej doshkol'nogo i mladshego shkol'nogo vozrasta» [Correction of disturbances of speech development in the "Theatre of physical education and health of children of preschool and early school age"].* Taganrog: «Centr razvitiya lichnosti» [in Russian].
2. Bernshteyn, N.A. (1966). *Ocherki po fiziologii dvizheniy i fiziologii aktivnosti [Essays on the physiology movements and activity physiology]*. – Moscow: Meditsina [in Russian].
3. Luriya, A.R. (2003). *Osnovy neyropsihologii [Basis of neuropsychology*]. – Moscow: Izdatelskiy tsentr «Akademiya» [in Russian].
4. Osvita, ohorona zdorovia ta socialne zabezpechennia ditei z porushenniamy psykhofizychnoho rozvytku: problem ta shlyahy ikh vyrishennia [Education, health and welfare of children with psychophysical development: problems and solutions]. (n.d.). Retrieved from http://kno.rada.gov.ua/komosviti/control/uk/publish/article?art_id=61951&cat_id=59256 [in Ukrainian].
5. Podgornaya, V.V. (2015). K voprosu o vzaimosvyazi korrektsii dvigatelnoy i rechevoy sfer mladshih shkolnikov s tyazhelyimi narusheniyami rechi [To the question of the relationship of the correction of motor and speech areas of younger schoolchildren with serious speech disorders]. A.P. Romanchuk, V.V. Klapchuk (Eds.), *Problemy ozdorovitelnoy fizicheskoy kultury i fizicheskoy reabilitatsii - Problems of physical culture and physical rehabilitation,* (pp.143-158). Odessa [in Russian].
6. Rostomashvili, L.N.(2009). *Adaptivnoe fizicheskoe vospitanie detej so slozhnymi narusheniyami razvitiya [Adaptive physical education of children with complex developmental disorders]*. Moscow: Soviet sport [in Russian].
7. Semenovich, A.B. (2007). *Vvedenie v neyropsihologiyu detskogo vozrasta [Introduction to neuropsychology childhood]*. Moscow: Genezis [in Russian].
8. Tarasun, V.V. (2008). Morfofunktsionalna hotovnist do shkilnoho navchannia ditei z osoblyvostiamy v rozvytku: diahnostyka i formuvannia. [Morfofunctional readiness to the school studies of children with features in development: diagnostics and forming.]. Kyiv [in Ukrainian].

9. Tsvetkova, L.S. (2010). *Afaziologiya: sovremennyie problemyi i puti ih resheniya. [Afasiology: modern problems and ways of their decision]*. Moscow: MPSI; Voronezh: MODEK [in Russian].

***Rakhmanova Oksana***

## THE METHODOLOGY FOR DEVELOPMENT OF ARTISTIC AND CREATIVE SYNAESTHETIC PERCEPTION OF YOUNGER SCHOOL STUDENTS ON INTEGRATED LESSONS OF MUSICAL ART

*Borys Hrinchenko Kyiv University,*
*Kyiv, Ukraine*

***Abstract.*** *The article deals with the actual methodology of artistic and creative synaesthetic perception based on the integration of color and music, fine and musical arts. The efficiency of the experimental methodology is confirmed with the results and the development of artistic and creative abilities of younger school students on integrated classes of musical art. The conclusion was made about the effect of this methodology on the development of figurative and associative thinking of school students, emotional sphere, promoting knowledge of the language and means of various types of arts, stimulation of creative self-expression of younger school students and their communication on the topic of art.*
***Keywords:*** *methodology, synesthesia, artistic and creative synaesthetic perception, integration, integrated lesson of musical art.*

**Introduction.** State standard of primary general education provides one of the main tasks of the school, that is comprehensive development and education of the individual through the formation of school students' desire and ability to learn, full-fledged speech, reading, calculating skills and skills in accordance with the cognitive capabilities of primary school-aged children. The topicality of the idea of integrated learning consists in its optimality for the current stage of development of the national school, since at this stage there is a complication of the content of education, the growth of the amount of necessary information and decrease in the time allocated for its mastering. In Ukraine, the principle of integration is proclaimed to be the main principle of education reform along with the principles of humanization and democratization. One of the areas of methodological enrichment of lessons in primary classes is teaching on the basis of integration of content and forms of learning. Consideration of this issue makes it necessary to recognize the need to improve the methodological basis