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Classroom Space and Child's Health

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The present article discusses the practice of classroom space organization in primary school for schoolchildren's health resources development. Special attention in the study is paid to the influence of the teacher's location relative to pupils in the classroom and pupils' satisfaction with their location at different distance from the teacher. Conception of children health development in education and by educational resources is represented. Health is considered as evolutionary and controlled resource of development.

Keywords: health resources development at school, schoolchild's emotional comfort, classroom space, teacher's location in the classroom.

Research area: pedagogy, psychology.

One of the most important indicators of society's well-being and one of the factors of a country's successful economic development is health of population, which basics are formed in the childhood. Protection and preservation of pupils' health is one of the strategic guidelines of Russian education modernization. Corresponding directions for national policy are enshrined in the Education Act, a national educational initiative "Our New School" and federal target programme for education development. Health factor is becoming increasingly important among the main expectations from education and in its quality assessment. Society and parents in particular, raise serious demands on school, and primarily the requirements for physical, mental and social health preservation. It is obvious that school, which, along with the knowledge ensures

children's health, or even asserts health as an educational result, will be preferred by parents.

Mentally healthy person is, first of all, creative, happy and cheerful, open and cognizing ourselves and the world around, accepting himself and recognizing the value and uniqueness of the people around. Such a person takes responsibility for his life, is in constant development and contributes to development of other people, adapts well to the rapidly changing life conditions and knows how to be in a situation of uncertainty. The primary function of mental health is maintenance of an active dynamic balance between a person and the environment in situations that require personal resources mobilization. A person is considered mentally healthy when he/she can effectively manage his/her resources.

For child's health resources development it is important that school meets child's educational,

social and psychological needs in respect to his/her feelings and experiences, interests and abilities and methods of understanding and control are formed.

Child's mental health is a prerequisite of not only his/her emotional well-being and physical health, but also good school performance and future successful socialization.

Much evidence shows that from 20 to 40 % of the negative effects which worsen children's health are connected with school. Influence of school risk factors is of high importance as they have continuous, long-term, systematic and integrated influence. All this makes it necessary to develop such an educational environment at school in which the teacher would focus on child's health as one of the educational results.

The questions of pupils' health preservation and promotion are not new in professional discussions and have a historical retrospective. They are represented in the works of the following Russian and foreign scientists: J.A. Comenius, P.F. Lesgaft, J. Locke, M. Montessori, J.H. Pestalozzi, N.I. Pirogov, V.A. Sukhomlinsky and K.D. Ushinsky. Valeologo-pedagogical aspects of the problem had extended coverage in the studies by I.I. Brekhman, G.K. Zaitsev, M.G. Kolesnikova, N.I. Kuindzhi and L.G. Tatarnikova. Serious consideration to the problems of pupils' health preservation and promotion is given in the work by V.S. Bykov, L.M. Kulikov, S.S. Korovin, S.G. Serikov, P.P. Tissen, N.A. Fomin, et al. Justification of connection of a person's physical and mental state can be found in the studies by A.A. Ukhtomsky, N.A. Bernstein, I.S. Beritashvili, A.Yu. Ratner, V.M. Bekhterev, S.P. Botkin, L.R. Lurie, et al. Physiological and psychological development interrelationship principle was implemented in the works of the following Russian psychologists: P.P. Blonsky, L.S. Vygotsky, A.N. Leontiev, S.L. Rubinstein, B.M. Teplov, et al.

Analyzing professional discussions and own many years' experience in this area, it is reasonable to talk more about the development of health resources at school and discuss the practice of school work in at least three directions.

The first is the presence of educational technologies and techniques at school that are organically integrated into the learning process and develop and enhance pupils' health. These technologies should be clear and easy to use on any subject content. We believe that using these technologies teachers can consciously form children's mental health: stress tolerance, intellectual endurance, positive self-esteem, etc. Mastered special teaching methods allow affecting for example, physical health: to meet children's needs in movements during lessons, relieve eye muscle strain, etc.

The second one is education in the healthcare field. It is referred not only to an independent academic subject and literal translation of knowledge about health (valeology and safety rules and guidelines), but to the joint educational activities for teachers and students, such as projects or researches, through which pupils can be informatively involved in the subject of health. [3].

The third direction is connected with creation of the school environment that contributes to the development of school health. It is not only sanitary-hygienic standard implementation, but also classrooms and student lounges equipment with account of children's health development ideas. The example is already existing patterns – sport corners and exercise equipment that allow removing muscle tension during lesson breaks and satisfying children's need for active movements. Presence of large number of blackboards in the classroom allows several students come to the blackboard simultaneously, and, thereby, it contributes to the removal of static tension from a larger number of children as well as anxiety,

especially connected to the location of one pupil opposite all the others (I'm not alone). It is important to place visual aids on all the walls, so that pupils could move, turn their heads, roll their eyes, point with their hands, change posture to find the right material.

Schooling in motion improves pupils' efficiency and mood. But most importantly, it improves health in almost all the indicators. For example, pupils themselves have to find the right book or a dictionary on the shelf of the classroom's bookcase or in the library and find the right page themselves. To do this, they are allowed to stand up, take books, flip through them, and then, as the task is done, put them in place during the lesson. Motor activity is child's biological need. Decreased motor activity leads to stunted growth and development, as well as poor health. [1] All the school space should work for child's health resources development. Moreover, the approach to pupils' health should be integrative and reveal interrelationship of biological, social and psychological factors that affect health. The condition for a positive result is connection of education tasks and pupils' health development with the technology of lesson organization, in particular:

- taking into account individual characteristics of children, such as educational material perception patterns, quality of attention, individual tempo-rhythmic characteristics of a child;
- regulation of teaching load (change activities during lessons, the amount of educational material given, intensity of work and its duration, emotional intensity);
- training universal learning activities, mastering of which reduces the risk of overload;
- create situations of different types and levels of difficulty tasks choice;

- use of group forms of work aimed at children's interaction in the learning process;
- organization of special exercises to relieve fatigue, mobilize and normalize various systems' functioning;
- creating positive emotional background of the lesson;

One of the important aspects of health, which we would like to emphasize in the represented paper, is child's emotional comfort, associated with his/her location in classroom and distance from the teacher. This refers to pupils' distance from each other, connected with child's location in the classroom and relative teacher's desk, as well as dynamics of pupils mutual location during the lesson: movements and pupil's and teacher's motion, within which acts of teaching and learning are committed.

Pupils' emotional perception of their location depends on where in relation to the teacher's attention pupil's desk is located. Pupils earlier than specialists discovered existence of "dead zones" in the classroom, where teacher's activity most rarely access. Mutual position space can put pupils at ease, create positive background and motivation to learn, but can also suppress, oppress and cause anxiety and somatic diseases. Physical space of the lesson is also determined by the degree of freedom of action and children's physical activity. For a pupil, movement place is most often located at the desk or at the blackboard. Mainly, the teacher disposes this space. The teacher makes decisions about where a pupil will be located and, at the same time, the teacher can move freely in the classroom. Many teachers try to change pupils' location twice a year not only because of their physical health, but also mental health – because of distance between a student and a teacher and understanding of the need to preserve pupils' emotional comfort. At that, it is not the only way to regulate pupils' well-being.

Physical space at elementary school is directly related to the emotional space of relationship between a teacher and a pupil and, respectively, between pupils, as representation of teacher-pupil relationship. Actualization of pupils' emotional, physical and cognitive needs depends on this emotional space. Intellectual concentration, stamina and learning motivation, patience in motionless sitting during a lesson in the classroom mostly depends on it. This space is formed on the basis of child's need for teacher's attention. Most elementary school pupils of 1-3 forms prefer to be close to the teacher. Teacher's attention is important in the context of child's well-being, his/her desire to demonstrate academic achievement and learning activities motivation.

The research was carried out with 87 children of three second forms of Krasnoyarsk gymnasia "Univers" №1, using projective drawing techniques "Animal School" [2]. The children were offered instruction: *"Now we will make a wonderful journey into the magical forest. Sit comfortably, relax and close your eyes. Imagine that we were in a sunny forest glade. Hear how leaves rustle overhead and soft grass touches your feet. You can see "Animal School" in the glade. Look around. What animals study at this school? What animal is the teacher? What the pupils are doing? And what animal do you see yourself? What do you feel about it? Now take a sheet of paper and a pencil and try to draw what you saw"*.

After performing this task, the children were asked to take a closer look at their drawings and find the animal which they identify with themselves. Next to the animal they had to write "I".

The obtained data showed that 69 % of children located themselves as animals in close proximity to the teacher. 17.3 % of children located themselves in the group of other pupils in the same near distance to the teacher. 10.3 %

drew themselves farther than the rest of the group or individually far from the teacher's image, and 3.4 % didn't draw themselves in the picture. At that, in the second and third cases, graphic signs of anxiety, fear, aggression, self-assessment emotional stress and communication difficulties are the most explicit.

Reflecting on the lesson in terms of its spatial construction in primary school, we become increasingly convinced that organization of physical, emotional and intellectual spaces is the purpose of education as creation of conditions for children's development. Not mere lesson's supply with didactic materials, age-appropriate furniture, lighting and heating, but creation of development spaces on their basis. Creating lesson's space, the teacher arranges its foundation, background, sources and means of development that have health development properties, as they contribute to manifestation and satisfaction of children's physical needs. One or another location of desks and chairs to a certain extent becomes determining and backbone in activity, mobility and success of information transfer from one subject of educational process to another.

The traditional way of pupils' location in the classroom usually looks as shown in Fig. 1.

Such location of pupils in the classroom has centuries-long history and is closely related

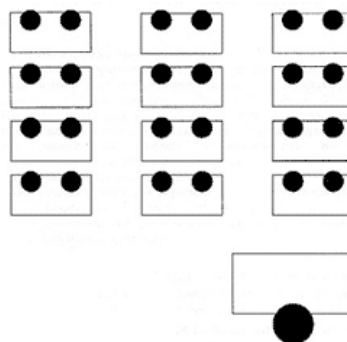


Fig. 1 The traditional way of pupils' and teacher's location at the lesson

to the methodological part of educational work, traditionally carried out under conditions of the class-lesson system. This scheme rigidly holds teacher's dominant position. Each student is focused on the teacher and has limited opportunity to interact with classmates. In addition, each pupil's fixed location at one or another desk has its own social status. So, pupil's location at the first or the last desk in the classroom up to the present time reflects and defines his/her educational achievements, status in the class and the character of pupil's relationship with the teacher.

Our research show that most of the second form pupils (87 pupils of the three second forms of Krasnoyarsk gymnasia "Univers" №1) – 58.62 % would like to sit at the first desk in close proximity to the teacher. In the process of study the children were suggested to mark in the desk location layout the following data with special symbols:

“I” – the desk where you sit

“+” – the desk where you would like to sit

“D” – the desk where your friend sits

“-” the desk where you would not like to sit

As we can see the first desk is the most chosen.

At that, 75.86 % of children said they wouldn't like to sit at the last desk.

The question: “Do you like to sit where you are sitting?” was answered in the following way: only 13.79 % of the children are satisfied with their location in the classroom at the lessons. 86.21 % of the children expressed a wish to sit at another desk.

From the total number of children sitting at the first desk, only one child expressed unwillingness to occupy his desk. While rest of the children denoted that they sit where they want. Most children expressed a desire to sit closer to the teacher's desk than they were sitting at the time of the study.

17.2 % of children identified location next to his/her friend as a desired one, the rest of the children identified desired location irrespective to their friends' location.

On the basis of Krasnoyarsk gymnasia “Univers” №1 we conducted a series of experiments with the teacher's desk and teacher's location in the classroom during the lesson and break, and found out that the number of pupils satisfied with their location in the classroom increases significantly when the teacher's desk

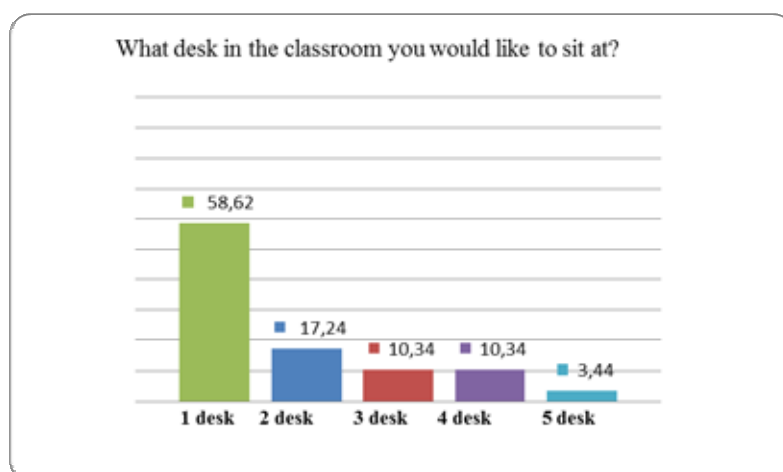


Fig. 2. Preferred location in the classroom among the second forms pupils of Krasnoyarsk gymnasia “Univers” №1, according to the studies

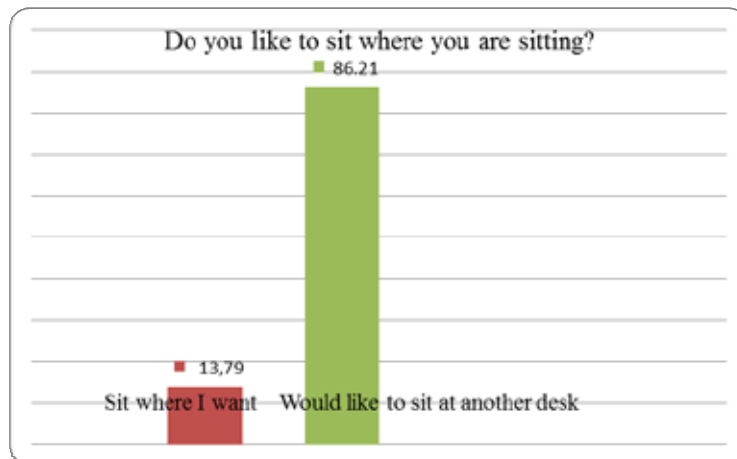


Fig. 3. Satisfaction with location in the classroom of the second forms pupils of Krasnoyarsk gymnasia “Univers” № 1, according to the studies

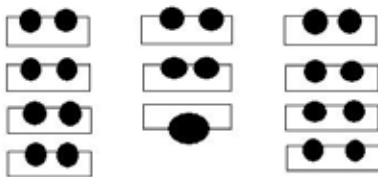


Fig. 4 The experimental way of pupils' and teacher's location at the lesson

is in the center of the classroom. Blackboards' placement is also important. In this case, blackboards are located in front and to the right of the teacher's desk.

Using this location method “upper circle” of the classroom disappears, and children appear to be closer to the teacher. Besides the novelty effect, which invariably arises in this case and has a beneficial effect on academic work, the level of educational interaction between the teacher and pupils in the classroom also increases.

Two weeks after the classroom space change the number of answers “I sit where I want” increased from 13.79 % to 72.4 %.

Allocation of the preferred location, as a percentage, was changed in the following way.

Another important thing is the manner of teacher's movement during the lesson. We observed very different lessons: when the teacher remains at the desk throughout the lesson, when the teacher is in the motion only at the blackboard, and when the teacher moves around in the classroom, managing to approach to each pupil several times during the lesson and pay him/her attention. The studies were conducted both in different classes with the typical teacher's motor behavior and, as an experiment, different types of teacher's motion during the lesson were modeled in the same class. The study of pupils' well-being after these lessons showed that pupils in the classroom, where the teacher actively moved around, experienced more positive emotions. We tried to take into account the possible influence of other factors on children's emotions, knowing that we are dealing with dynamic characteristic.

In fact, lesson space is organic, interdependent unity of physical, emotional and mental spaces which are associated with physical, emotional and spiritual development and children's health. All of them are certainly related to children's needs for movement and cognition, as well as needs for attention, acceptance and security. These spaces

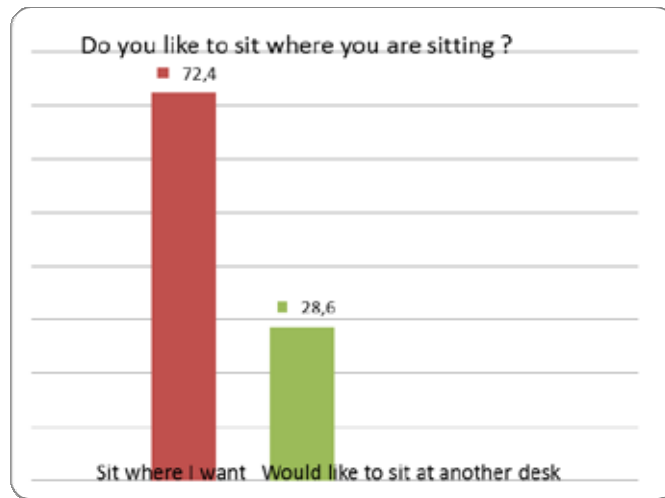


Fig. 5. Satisfaction with location in the classroom of the second forms pupils of Krasnoyarsk gymnasia “Univers” № 1, according to the experiment materials



Fig. 6 Preferred location in the classroom among the second forms pupils of Krasnoyarsk gymnasia “Univers” № 1, according to the experiment materials

are dynamic, they are amenable to formation and pedagogical management. Optimal teacher’s and pupil’s physical and emotional space has significant influence on intellectual educational space in the classroom.

It is obvious that emotions, connected with distance from the teacher, will vary depending on pupils’ age that gives ground for appropriate modeling classroom learning space. Thus, according to our observations, senior high school

students mostly prefer to communicate with the teacher in the distance. High school students in the focus groups said that they have feeling of anxiety when the teacher comes to their desk, looks into notebooks and stands behind. The most comfortable teacher’s location in the classroom is according to the traditional scheme.

Thus, students’ living space in the classroom can be organized in accordance with age and meet challenges of age, should be mobile and

transformable in the course of the lesson. Pupils' location and distance from the teacher depends not only on age and the teacher, but a pupil, the state of his/her needs, for example, in movement, cognition or emotions. Variety of spaces, their transformation, interchangeability and change,

as well as teacher's presence in pupil's space becomes important in the context of comfort, pupils' safety and satisfaction of the needs for attention and acceptance. Under this condition it is possible to preserve health and achievement of educational results.

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Пространство класса и здоровье ребенка

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В представленных материалах обсуждается практика организации пространства классной комнаты в начальной школе для развития ресурсов здоровья школьников. Особое внимание в статье уделяется исследованию влияния расположения учителя относительно детей в классе, удовлетворенности детей своим местом при разной удаленности от учителя. Представлена концепция развития здоровья детей в образовании и ресурсами образования. Здоровье обсуждается как развиваемый и управляемый ресурс развития.

Ключевые слова: развитие ресурсов здоровья в школе, эмоциональный комфорт ученика, пространство класса, расположение учителя в классе.

Научная специальность: 13.00.00 – педагогические науки, 19.00.00 – психологические науки.
