

Health Protection in the Education of Students with Disabilities: Principles and Organization

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The paper presents results of the analysis of empirical research of health-protecting environment in 40 Russian educational organizations for children with disabilities: special (correctional) schools (N=22), schools with an inclusive model of separate classes for students with disabilities (N=8) and schools with joint education of students with and without disabilities (N=10). Complex multifactor monitoring and analysis of websites of these educational organizations were used as research methods, which allowed us to build a mathematical model of health-protecting environment for each type of educational organization, differing in its structure and content, as well as to establish a hierarchy of such psychological and pedagogical components as “spatial organization”, “learning activity”, “correctional assistance”, “professional activity” to identify the formula of “ideal educational organization” for children with disabilities. The paper provides evidence that the components of health-protecting environment do not exist in isolation from each other, but rather have a common cumulative effect, thanks to which the school management can act effectively and realize the school’s pedagogical potential.

Keywords: health protection, accessible environment, disabilities, students, special educational needs, educational organization, inclusion, health, teaching staff.

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Здоровьесбережение в образовании обучающихся с ОВЗ: принципы и организация

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В работе изложены результаты анализа эмпирического исследования здоровьесберегающей среды в 40 образовательных организациях Российской Федерации, осуществляющих обучение детей с ОВЗ в разных формах: специальные (коррекционные) школы (N=22), школы с инклюзивной моделью отдельных классов для обучающихся с ОВЗ (N=8) и моделью совместного обучения в классе школьников с ОВЗ и нормативно развивающихся сверстников (N=10). В качестве методов исследования применялись комплексный многофакторный мониторинг и анализ сайтов образовательных организаций, что позволило построить математическую модель здоровьесберегающей среды для каждого типа образовательной организации, отличающейся своей структурой и содержанием, а также установить иерархию таких психолого-педагогических составляющих, как «пространственная организация», «учебная деятельность», «коррекционная помощь», «профессиональная деятельность», определить формулу «идеальной образовательной организации» для детей с ОВЗ. Представлены доказательства того, что компоненты здоровьесберегающей среды существуют не изолированно друг от друга, а имеют общий кумулятивный эффект, благодаря чему руководство школы может управлять и эффективно реализовать свой педагогический потенциал.

Ключевые слова: здоровьесбережение, доступная среда, ограниченные возможности здоровья, обучающиеся, особые образовательные потребности, образовательная организация, инклюзия, здоровье, педагогические кадры.

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Introduction

At present, the problems of health saving are actualized and disclosed in connection with the new stage of reforms in education, health and social policy, as well as global challenges of the time: the increasing number of children with chronic diseases, children with disabilities and handicaps, spread of innovative forms of education and creating special educational conditions for children with disabilities in all educational organizations without exception [1].

The challenges faced by domestic science and educational practice in the development and implementation of health-saving technologies require a reference to the terminological space of this area of educational activity. So far, Russian science lacks a common understanding of the definitions of “health preservation”, “health-saving environment”. Most authors reveal the problem of health preservation through the characteristics/components or technologies.

Thus, N.K. Smirnov [8] uses a valeological approach to the understanding of the educational environment, including ideas about the culture of health and health-saving conditions at school. L.B. Dykhan [2] describes the structure of a health-saving environment by listing its components: a) organization of the learning and education process; b) communication style of the subjects of the educational process; c) sanitary and hygienic conditions of learning and education, d) students' movement mode; e) medical support and health procedures during the school day; f) food. The most complete description of the characteristics of a health-saving environment is presented in a number of works [9; 10].

If we turn to the data of foreign pedagogy, in general, when describing health saving conditions in schools, attention is paid to the design of accessible space, the availability of equipment, professional staff [13; 14; 15].

Designing a health-saving space allows to make the educational process safe, to re-

duce fatigue and risks of health disorders, to prevent the emergence of school-related pathology of students with disabilities, including the formation of habits to lead a healthy lifestyle, independently control and manage their health in the future.

Currently, the leadership of the state and the Ministry of Education have taken comprehensive measures of organizational and legal nature regulating the process of education of children with disabilities and the protection of their health at different stages of growth and development [5; 7; 12]. A number of laws and regulations in the field of education, disclose the procedure and rules of admission to the educational organization, define the content and specify the characteristics of the organization of the learning process under the adapted basis educational programs (ABEP) [6; 11]. In addition, a number of documents outline the amount of teaching load and its distribution by the main types of learning activities [6; 11], give a clear characteristic of special learning conditions and equipment for collective and individual use [4], indicate norms and rules of providing an accessible and developing educational environment, as well as standards of accreditation and control of educational activity [3].

Regulatory documents indicate that the health-saving environment of an educational organization must have a combination of factors: availability of special educational and technical means; correspondence of the schedule, class density and academic load to the health status and individual psychological abilities of the child; availability of modern rehabilitation equipment; staffing with modern health-saving technologies for working with children with disabilities.

The existing regulatory framework allows the implementation of health saving ideas in the learning process of schoolchildren. Actual problem is a comprehensive and systematic implementation of these provisions in real conditions, as the main task of school

health care is the prevention of diseases that worsen the condition of a child with disabilities and organization of assistance in eliminating negative social factors. The purpose of the work is to identify the characteristics of the environment of the educational organization for students with disabilities by the criterion of its health-saving function. Its results will provide insight into the practice of implementation of the regulatory framework, the functioning of the health care system, “deficits” and “resources” of health-saving technologies in educational organizations with different models of education for children with disabilities.

Organization of research

Sample. The study was conducted on the basis of 40 educational organizations of the Russian Federation that implement the ABEP for students with disabilities, which were randomly selected. The study analyzed data from three types of educational institutions. The first type is represented by special (correctional) schools (N=22), in which only students with disabilities of different nosologies receive education. The second (N=8) and third (N=10) types of schools provide inclusive education, but differ in the form of implementation. Thus, the second type of schools assumes the presence of classes for students with disabilities in the general school (classes for students with a particular type of disability or the so-called “resource” classes). The third type of schools implements the idea of inclusion through education of a student with a disability in a class with normatively developing peers.

The research methods are the analysis of the data from the website of the educational organization and comprehensive multifactor monitoring. The analysis of the data provided on the website of the educational organization involves taking into account such indicators as the category of students with disabilities and options of the ABEP implemented in the school.

Comprehensive multifactor monitoring covers nine main parameters: 1) architectural conditions, 2) conditions for the educational process, 3) special equipment, 4) special didactic material, 5) remedial courses, 6) extracurricular activities, 7) profile education of specialists, 8) availability of teaching staff, 9) dynamics of learning activities. When interpreting the obtained results, for convenience and better meaningful presentation of the material we combined these parameters into integral.

To process the data, we used the calculation of average values and ranking, factor analysis. The ranking procedure made it possible to identify the degree of expression of different components of a health promoting environment in educational organizations, implementing different models of education. In order to predict and determine the structure of psychological and pedagogical components of health promoting environment of an educational organization, the procedure of factor analysis by the method of principal components with subsequent rotation of the data matrix by varimax-normalized type was used. Data processing was carried out in Statistica 10.0 program for the Windows environment.

Results of the study

The first stage of the study consisted in the factorization of data, which made it possible to determine mathematical (empirical) models of health-saving environment for each type of educational organization (Table 1). It is worth noting that the presented models are characterized by harmony, this is evidenced by the unipolarity of the components that form a factor.

Despite the similarity in the structure of the model of inclusive and special education in schools, the degree of their expression is different, this is evidenced by the share of explanatory variance of each factor, indicated as a percentage, as well as the filling of the factors themselves. For example, the factor

“predictors of professional activity” in schools where inclusion is carried out through the organization of classes for students includes indicators of profile education and the availability of appropriate specialists, and, in schools where inclusion occurs through the integration of individual students — only through the availability of teaching staff. Even this aspect will affect the effective organization of the educational process. The mathematical model of health-saving environment in special (correctional) schools differs significantly from the above mentioned ones, in particular, the “predictor of correctional assistance” is singled out separately.

The second stage of the study consisted in ranking the main parameters of health-saving environment in educational organizations (Table 2), implementing different models of education (special and inclusive). The approach

we chose allowed us to define a hierarchy of psychological and pedagogical components of a health promoting environment, distinguished by its uniqueness and peculiarity.

For special (correctional) schools the most significant components of health-saving space are “conditions for implementing the educational process”, “profile education of specialists”, “availability of teaching staff”, and insignificant components are “architectural conditions”, “correctional courses”, “dynamics of learning activities”. For schools implementing inclusive education in classes for students with disabilities, the important components of a health-saving environment are “specialist profile education”, “extracurricular activities”, “conditions for the educational process”, and of minor importance are “special didactic material”, “dynamics of learning activities”, “architectural condi-

Table 1

Factorial (empirical) structure of the health-preserving environment in educational organizations that implement models of special and inclusive education

Special (correctional schools)	Inclusive education through the creation of classes for students with disabilities	Inclusive education through the integration of students with disabilities into the general education class
Factor 1 — “Predictors of spatial organization” (22.1%) Architectural conditions (0.892)	Factor 1 — “Predictors of Professional Activity” (33.9%) Profile education of specialists (0.917) Availability of pedagogical staff (0.751)	Factor 1 — “Predictors of spatial organization” (30.8%) Conditions for the educational process (0.978) Special equipment (0.802)
Factor 2 — “Predictors of remedial assistance” (20.7%) Correctional courses (0.814)	Factor 2 — “Predictors of learning activities” (29.7%) Correctional courses (0.910) Extracurricular activities (0.880) Dynamics of learning activities (0.818)	Factor 2 — “Predictors of learning activities” (32.2%) Correctional courses (0.909) Extracurricular activities (0.949) Dynamics of learning activities (0.937)
Factor 3 — “Predictors of learning activities” (23.0%) Extracurricular activities (0.701) Special equipment (0.806) Dynamics of learning activities (0.898)	Factor 3 — “Predictors of spatial organization” (19.2%) Architectural conditions (0.831) Conditions for the educational process (0.846) Special equipment (0.758)	Factor 3 — “Predictors of professional activity” (25.2%) Availability of pedagogical staff (0.785)

tions". The dominant components of a health promoting environment for schools that implement the model of inclusion through integration of students with disabilities are "conditions for the educational process", "architectural conditions", "remedial courses", and the insignificant components are "extra-curricular activities", "dynamics of learning activities", "special didactic material".

The results illustrate that the indicators (components) of a health promoting environment in a comparative context in different conditions of implementation of education for students with disabilities, have both general and specific features. The existing differences are due to a number of reasons: the specificity and traditions of domestic special education, the lack of methodological base of inclusive education system, the disproportion between the regulatory and legal support and its actual implementation in practice, the lack of qualified personnel, etc. Mathematical analysis has revealed both positive indicators and "deficits" in the existing architecture

of health-saving environment in educational organizations, implementing different models of education. It should be emphasized that the indicators of health-saving environment do not exist in isolation from each other, but have an overall cumulative effect, allowing schools as a whole to effectively realize their educational potential.

Discussion of the Results of the Study

Qualitative description of the results of the factor analysis procedure allows us to reveal the essence and extrapolate hypothetical models of health preservation organization, built with the help of mathematical processing. Let's begin the presentation with the factors, equally represented in the structure of correlation shoulders of indicators of health-saving environment in different organizations. The factor "predictors of spatial organization" is one of the most important in the design of health-saving environment in connection with the existing regulatory and legal requirements, human-

Table 2

Ranking of indicators of a health-saving environment in educational organizations that implement models of special and inclusive education

Indicators	Special (correctional schools)		Inclusive education through the creation of classes for students with disabilities		Inclusive education through the integration of students with disabilities into the general education class	
	Mean	Grade	Mean	Grade	Mean	Grade
Architectural conditions	2.20	7	2.00	9	2.43	2
Conditions for the educational process	2.65	1	2.43	3	2.49	1
Special equipment	2.45	4	2.57	4	2.19	6
Special didactic materials	2.30	5	2.14	7	1.86	9
Correctional courses	2.25	8	2.29	5	2.33	3
Extracurricular activities	2.35	6	2.57	2	2.14	7
Special education of specialists	2.55	2	2.71	1	2.29	4
Presence of pedagogical staff	2.50	3	2.21	6	2.24	5
Dynamics of educational activity	2.15	9	2.07	8	2.00	8

ization of the educational process, including the perception of a student with disabilities not as an “object of educational impact”, but as an equal “subject” with its individual and psychological characteristics and educational needs. The presence of the factor “predictors of learning activity” emphasizes that the main purpose of the school is to implement educational functions, first of all, training and education, socialization of a child with disabilities. If in schools implementing the inclusive model of education the learning activity covers also the remedial component, then for special (remedial) schools’ differentiation of implementation of learning activity and remedial component is characteristic. Therefore, only for this type of schools the mathematical modeling procedure singled out the factor “predictors of remedial assistance”, as learning activity should also carry a corrective orientation. A separate factor “predictors of professional activity” was identified for schools working on the inclusive model. At the same time, for schools implementing exclusively the ABEP, due to the established system in the work with the staff, as well as traditions in the field of education for defectologists, the staffing problem is not so relevant and this factor was not highlighted.

Analysis of the integral parameters of the health promoting environment in educational institutions revealed the potential and limitations of each of them. Thus, the factor of the educational environment, which includes architectural conditions, including compliance of premises, classrooms and classrooms with the norms of SanPiN, the requirements of the program “Accessible Environment” and the special educational needs of children with disabilities, took the first ranking and was the most favorable relative to other components. This is due to the fact that most educational organizations are located in new buildings with high functionality and modern ergonomics. Educational organizations with low values of this component are

located in old buildings. In this regard, it is impossible to reconstruct them, equip the building with elevators, expand recreational facilities and provide space for gyms. Most often these are separate educational organizations for children of a particular psychological and pedagogical category, implementing training in the ABEP. Low values of this factor occurred when students with disabilities of different nosologies were taught in the same educational organization. In this case, the conditions were not fully created for the education of children with sensory or motor impairments, in accordance with the conditions for the education of children with mental retardation and/or autism spectrum disorders.

Inconsistency of the spatial environment (rooms and classrooms with requirements for accessibility and adaptability) can have a negative impact on the organization of the educational process. Failure to implement the principles of health preservation ultimately has a complex effect on the health of the schoolchildren, their academic performance and psychological state. Regardless of the form of organization of education, a low level of the indicator “dynamics of learning activity” was noted with fairly stable indicators of the state of health of children with special educational needs. This pattern indicates limited use of health-saving technologies in the learning process, low scientific validity and lack of educational technologies for a number of nosological categories. Low effectiveness of traditional methods and technologies of health promotion, as well as their incorrect use in the construction of lessons leads to overwork, decreased interest and cognitive activity of students with disabilities, unwillingness to interact with the teacher and classmates, negativism manifestations. It is known that the choice of teaching method, as well as health saving technology, should be based on the type of disability, the actual psychophysical state of the child, and it itself should be adapted

to the special educational needs of the student, which would make it available for independent use by the child. The corrective and restorative potential of technology is reduced or has no effect if the above factors are ignored. In schools that implement the model of inclusion, the implementation of health-saving technologies for children with disabilities is extremely difficult, due to significant differences in the organization and mode of their implementation, the existing time constraints in lesson planning for students of the whole class.

Even lower values were obtained for the factor of provision with special equipment and didactic materials. Problems with the use of special didactic materials are related to insufficient updating, most often due to the lack of such materials or their high price. The availability of equipment and educational and methodological support for the educational process in the absence of qualified personnel will not allow for optimal pedagogical work. On the other hand, the lack of rehabilitative, developmental and educational equipment has a negative impact on the health and academic performance of students, especially in schools that are older and have not undergone complete modernization. In special (correctional) schools this problem is expressed to a less extent due to the long experience of implementing this model of education, orientation on the documents and achievements of domestic defectological science, availability of qualified teaching staff, and consequently knowledge of the basic needs of children with disabilities. In schools that implement the inclusion model, this issue is often more acute. The reason is as follows: a diverse contingent of students, the staff lacks staff with the necessary professional qualifications, which does not always allow to fully consider the latest trends in the theory and practice of defectology, build an individual approach to the educational needs and abilities of each child, implement promising methodological

developments in the process of training and education of children with disabilities.

Significant problems have been identified in the organization of extracurricular activities and the remedial component in the structure of the educational process. The implementation of remedial courses is often hampered by a shortage of subject specialists, insufficient funding to expand the content of the courses. That is why organizations implementing inclusive education often offer only courses in speech therapy and remedial and developmental classes with a speech pathologist. In special schools, the system of remedial work is fully built up and put into practice. However, it should be noted that the courses are not always offered that meet the needs of students, both in terms of psycho-physiological features and in terms of further social adaptation and socialization. The availability of professional staff in educational organizations with competencies in the field of correctional and developmental and rehabilitation work also has a great influence. It is worth noting the problem of organizing extracurricular activities, typical for schools, where education is implemented in the form of integration of individual students with disabilities into the classroom with healthy peers. Often in this case, education is implemented in the home form and its basis are subject areas, and extracurricular activities are implemented formally, or are absent from the curriculum. In this situation, students with disabilities do not always have the opportunity to integrate into those forms of extracurricular activities that are implemented by the educational organization. In a special (correctional) school the organization of extracurricular activities is traditionally given considerable attention. Unfortunately, a separate problem is the discrepancy between the offered extracurricular activities (circles, courses) and psycho-physiological features and needs, health status of students, which, of course, does not contribute to the harmonious develop-

ment of students and can cause difficulties in social adaptation.

Illustrating the main factors that determine the health-preserving environment of an educational organization, it is necessary to dwell on the staff. This problem is quite relevant for a number of reasons: the Federal State Educational Standard (FSES) assumes the presence of specialists with specialized education and relevant qualifications, with competencies relevant to modern demands of society; temporary shortages and the heavy nature of activity can lead to professional deformations and outflow of personnel from the field of education. There is an urgent need to improve the qualifications of staff, since specialists are usually trained to work with only one category of students. The low qualification of staff is exacerbated by the shortage of specialists in all profiles: oligofrenopedagogy specialists, visual impairment specialists, teachers of the deaf, special psychologists, speech therapists. We should also note the low percentage of young personnel in the educational process, which does not allow the full transfer of professional experience.

Main Results

Thus, our monitoring allowed us to identify the state of psychological and pedagogical components of a health promoting environment in educational organizations that educate children with disabilities. The data collected with its help became the basis for the formulation of a number of conclusions and recommendations to improve the education system for children with disabilities:

1. Currently, due to the implementation of state programs, in educational organizations for children with disabilities, which are located in modern classrooms, a modern health-saving environment is created: the premises and classrooms, gyms, spaces for extracurricular activities and vocational training meet the regulatory requirements.

2. In all educational organizations that implement various models of education for

children with disabilities, mechanisms of interdisciplinary interaction have not been built and forms of network partnership with health care institutions are insufficiently implemented, which leads to incomplete or limited information about the health of students and teaching errors in determining the conditions, forms and mode of education and, consequently, deterioration of the psychological state of students, their academic performance and health indicators.

3. A separate problem of educational organizations is the lack of information about the current state of health of children with disabilities, which does not allow to properly build lesson and extracurricular activities, remedial work. This problem is most acutely felt in educational institutions implementing the inclusive model.

4. Asynchrony and disproportion in the implementation of lesson activities, on the one hand, and extracurricular activities and remedial courses, on the other, are characteristic of all models of education for children with disabilities. If lesson activities are largely regulated by the existing FSES, the content of extracurricular and remedial work is determined by the capabilities of the organization (availability of specialists, students with different nosologies, lack of equipment and facilities).

5. The diversity of psychological and pedagogical groups of students, shortage of qualified personnel, lack of coordination with special (remedial) schools indicates the need for schools implementing the model of inclusion to algorithmize and prescribe in the relevant regulations, the necessary special equipment and educational and methodological support of the educational process for specific groups of students. Regulation of education of children with disabilities in inclusive practice will be an effective way to implement all the necessary conditions, taking into account the requirements of FSES and the special needs of students with disabilities.

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