DOI https://doi.org/10.32405/2308-3778-2024-28-1-112-123 УДК: 373.3/.5.043.2-056.262 ORCID ID: https://orcid.org/0000-0002-6459-806X

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TECHNOLOGIES OF SOCIAL AND PEDAGOGICAL SUPPORT FOR STUDENTS WITH VISUAL IMPAIRMENTS IN THE GENERAL EDUCATION ENVIRONMENT

Abstract. The article presents practical approaches to implementing technologies for social and pedagogical support for students with visual impairments in the general education environment. The research's relevance is determined by the reform of education for children with special needs in the current realities of martial law and the related challenges of implementing inclusive education. The article aims to provide practical recommendations for adapting the educational environment to the characteristics and needs of students in various types of educational activities, emphasizing the adaptability and flexibility of the educational environment.

The article employs general scientific research methods: theoretical analysis and synthesis to identify barriers in the educational environment to the learning and development of children with visual impairments and to justify social and pedagogical technologies for overcoming them; comparison to determine the levels of support and effective means of adaptation according to the developmental characteristics of children; and modeling to substantiate effective technologies for pedagogical support in various types of educational activities.

Based on the research findings, the article highlights the leading technologies of social and pedagogical support for students with visual impairments in the general education environment. It offers recommendations on the formation and organization of a support team, the organization of the spatial and physical environment of the educational institution, the use of corrective equipment, and the organization of educational activities according to the child's development features caused by visual impairments. Practical advice is provided regarding methodological support for spatial orientation and mobility and for students' physical, cognitive, linguistic, emotional, and volitional development.

The scientific novelty of the researched issue lies in a comprehensive approach to defining and applying technologies for the social and pedagogical support of students with visual impairments. The research results, which are of significant importance, can be used by educators in general secondary education institutions where children with visual impairments study to adapt the educational environment to the needs of these children.

Key words: social and psychological support, students with visual impairments, inclusive education, barriers to the social and physical environment, educational space, adaptation.

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Introduction. Ensuring equal rights and opportunities in the educational sphere for everybody, without discrimination, is legally defined as one of the priority directions for developing modern education in Ukraine [11; 13; 14]. Despite the full-scale armed aggression of the Russian Federation against Ukraine, the reform of inclusive education continues, alongside the identification of new priorities and tasks for the further development of education. Creating an inclusive, safe, and supportive educational environment has become particularly important in this context. Modern

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education must be aimed at acquiring life competencies and the harmonious development of individuals as personalities, cultivating their talents and intellectual and physical abilities, and fostering high moral qualities in citizens capable of making conscious social choices [14].

Teaching children with special educational needs in the general education environment presents unique challenges. This task is not only a challenge for the child, their parents, teachers, and the education system but also requires a comprehensive educational strategy for psychological, social, and pedagogical support. This strategy should consider the needs and expectations of students with special needs, as education in a general education institution is not just about equal access to quality education. It's also about providing better opportunities for forming social interactions with peers, adults, the community, and the world they will become part of. It is an opportunity for growth, talent showcase, interest pursuit, discussion engagement, experience gain, goal and project development, dream pursuit, and achievement.

Aim and tasks. The purpose of this article is to present practical experience in implementing social and pedagogical as well as methodological support technologies in the general education environment, particularly for children with visual impairments. In line with this goal, the following tasks were addressed: highlighting the leading technologies of social and pedagogical support for students with visual impairments in the general education space, including providing recommendations on forming and organizing the support team's work, arranging the spatial-physical environment of the educational institution, using corrective equipment, and organizing educational activities following the developmental characteristics caused by visual impairment; offering practical advice on methodological support for spatial orientation and mobility, as well as the physical, cognitive, speech, and emotional-volitional development of students.

Research methods. To achieve the outlined tasks, the following general scientific research methods were used: theoretical analysis and synthesis to identify technologies for social and pedagogical support for children with special needs in the general education environment; comparison to determine the developmental characteristics of students with low vision and blindness, as well as the barriers and difficulties in their learning activities; and modeling to justify the main strategies for adapting and modifying the educational environment for students with visual impairments.

Research results. Integrating a child with visual impairments into the new environment of an educational institution is associated with significant adaptation challenges, both for the child and other children in the group or class, as well as for the teacher. The adaptation process can be eased through preparatory work by the support team and by adhering to crucial recommendations regarding an individual support strategy, which is developed based on the results of an assessment initially conducted by specialists from inclusive resource centers. This assessment allows for identifying the child's developmental characteristics and determines the necessary level of support they require within the educational environment [11].

As a rule, children with special educational needs begin their education at the institution already with a conclusion from the Inclusive Resource Center (IRC) and general recommendations regarding their learning organization. However, the educational institution often identifies difficulties that hinder the child's development and complicate the learning process. For this reason, the head of the educational institution forms a psychological-pedagogical support team. This team, which plays a crucial role in the comprehensive approach to inclusive education, typically includes:

• Permanent members the principal or vice principal for academic and educational work, the primary school teacher (homeroom teacher), subject teachers, teacher's assistant, school psychologist, social pedagogue, special education teacher (Teachers of Students with Visual Impairments – TVI), physical therapists, and the child's parents (one parent) or legal guardians (hereafter referred to as parents). This collaborative team ensures that all aspects of the child's education are considered and addressed.

• Involved specialists: the educational institution's medical staff, physician, child's assistant, specialists from the social welfare system, child services, and other professionals as needed.

In addition, specialists from the Inclusive Resource Center, who participated in conducting the comprehensive assessment, are involved in the team. During martial law, emergencies, or states of emergency (special periods), the team's adaptability is demonstrated as meetings can occur online and in a mixed in-person and remote format [11]. This adaptability ensures that the child's education is not disrupted, even in challenging circumstances.

The primary tasks of the support team are to collect information about the child and develop an individual development program, determine the technologies for organizing the educational environment, and outline the specific psychological-pedagogical and corrective developmental services based on the child's potential. This team, which includes the principal or vice principal for academic and educational work, the primary school teacher (homeroom teacher), subject teachers, teacher's assistant, school psychologist, social pedagogue, special education teacher (TVI), physical therapists, and the child's parents (one parent) or legal guardians, works collaboratively to create an individual development program and a long-term plan for psychological-pedagogical support for the child, their parents or guardians, teachers, and other participants in the educational process (students and their parents). The involvement of certain specialists (speech therapist, psychologist, corrective educator, TVI, Teachers of the deaf and hard of hearing – D/HH, etc.) is also considered based on the child's needs. This development program includes general information about the student, outlines the system of additional services provided by specialists, specifies the means and methods for necessary adaptation of the learning environment, modification of learning materials, an individualized educational program, and, if needed, an individual learning plan [10, p. 44].

The initial collection of information is carried out through observations of the child, interviews with parents, the IRC specialist (TVI), a psychologist, and a teacher's assistant. This will help the teacher gain a comprehensive overview of the visual impairment, the functional state of visual perception, physical development characteristics, speech and communication abilities, and cognitive development, and, based on these factors, make conclusions about the educational possibilities and support strategies for the student. The format for gathering this information will later be used to develop the student's learning plan.

The teacher must interpret medical information (ophthalmologist's report) about visual impairment in terms of educational implications. Therefore, conclusions about the functional state of the child's vision are crucial: how the child sees up close and at a distance, in outdoor settings, in well-lit rooms, or dim light; the child's field of vision and peripheral vision (what they see to the side); whether they perceive depth and perspective; whether both eyes see equally well (binocular vision); whether they distinguish all colors equally; and what additional optical or lighting aids they might require, as well as the potential need for audio or tactile aids. All of this information will assist the support team in developing the learning plan and defining teaching strategies.

Adaptation of the Spatial-Physical Environment for Children with Visual Impairments. The safety of the surrounding space is essential for every child. A child with visual impairments faces additional challenges when accustomed to the school, classroom, gym, cafeteria, restroom, and playground layout. These children will require extra spatial cues: guiding lines along the floor or walls, enlarged and Braille signs marking rooms, contrasting door features (for example, a dark doorframe on a light wall, light doors with dark handles), and contrastingly painted stairs, among other adaptations. It is advisable to familiarize the child with the school's layout and classroom before the start of the school year [8, p. 155-170]. Recommendations for arranging the spatial-physical environment are presented in Table 1.

It uses corrective equipment to Work with children with visual impairments. A complete list of corrective equipment necessary for the education of children with special educational needs is provided in the Standard List of Special Means for Correcting the Psychophysical Development of Individuals with Special Educational Needs Who Study in Inclusive and Special Classes (Groups) of Educational Institutions [12]. In addition to the name of the equipment, it also includes information about its purpose and intended use. The most essential items for students with visual impairments are reflected in Table 2. Arranging the Spatial-Physical Environment

Recommendations for Arranging the Spatial-Physical Environment:

- a wardrobe for a child with impaired vision should be allocated near the door so that it is easy to find. You can mark it with a particular touch or light landmark (stick on a toy, etc.);

- it is necessary to observe the order in the corridors, on the stairs, and in the classroom (scattered things in the passage between the tables will prevent unhindered access);

- the child should be familiarized with the location of all furniture and equipment in the classroom and warned about their movement. All classroom doors and drawers should be kept closed (do not leave them half-open);

- the child's workplace should be within easy reach of the teacher so that in case of need, it is easy to help (give a specific object, help find an object that has accidentally fallen, etc.);

- you should control the child's posture at the table, do not allow him to lean low over a notebook or book, and bring them closer to the eyes with the help of a stand;

- provide access to visual information in the classroom (enlarged font, tactile information).

For children with low vision

- the child's workplace should be determined according to the functional state of his vision; if the vision is better in the right eye - the child should be seated to the left of the central line, and vice versa, closer to the teacher and the blackboard. The workplace lighting should be good, but direct sunlight or bright lamp light should be avoided. In some cases of vision impairment - the child should be seated in a shaded part of the classroom or specially protect working vision from bright lighting;

- you should avoid the glare of the glossy surfaces of the table, paper, or computer monitor. Use nonglossy materials and a protective screen;

- if the child uses a book stand or tilting table, they should be adjusted for the best visual perception.

Table 2

List of Corrective Equipment Necessary for the Education of Children with Visual Impairments

For children with low vision	For blind children
– stands for books, allows you to zoom in and fix	 textbooks and manuals are printed in
the text closer to the eyes for optimal visual	enlarged font or braille;
perception;	- a Braille device for writing, or a typewriter,
– additional lighting and magnifying devices	special paper for writing in Braille;
(table lamps, magnifiers with illumination), if	- a computer with a voice program or Braille
necessary, facilitate visual work, and increase the	display;
size, contrast, and spacing of the printed text;	 sound recording and sound reproducing
– notebooks with increased spacing between	devices, electronic notebooks;
rulers and increased contrast;	 – audio recordings of literary works;
 paper without glare (matte, yellowish color); 	- relief images of tables, and diagrams for
- sets of practical visualizations (objects, toys,	specific educational material;
models).	– sets of tactile clarity.

In collaboration with the vision rehabilitation specialist from the Inclusive Resource Center and consultants from specialized equipment supply centers, the teacher and assistant must identify the particular means and equipment required for a specific student before the start of the academic year and clarify how to use them correctly to teach the student to use them effectively.

Additionally, it is advisable to develop unique collections of adapted didactic materials, natural objects, and items for studying specific topics and subjects, such as counting materials for mathematics and natural materials for science. The teacher and assistant determine weekly what the

student with visual impairments will need during language, reading, mathematics, and practical lessons to understand the educational material and form stable, adequate representations.

The teacher's assistant can conduct preparatory work with the student before studying objects that are difficult for direct tactile examination and assist the student with homework. At the same time, it is essential to encourage the student's independence and avoid providing "excessive" assistance. The assistant may also prepare individual cards with specific tasks in enlarged print or Braille as needed [1; 4; 5].

General recommendations for organizing the educational activities of a child with visual impairments in primary school are determined according to the developmental characteristics caused by the visual impairment.

Spatial orientation and mobility are primary barriers for students with visual impairments. Even a student with low vision may feel lost in a new and unfamiliar environment, as their understanding of space could be more cohesive. These students must be trained to explore their surroundings, move safely, and use a cane. Students should be familiarized with the main routes within the school building (the route from the entrance to the classroom, to the cafeteria, gym, psychologist's office, doctor's office, etc.), on the school grounds (playground, stadium), and outside of it (the route from home to the transport stop, from the stop to the school). For students with visual impairments, the safety of the environment and the skills to use assistive devices (such as a cane) and landmarks are crucial.

It is essential to teach the student to use tactile, auditory, and olfactory sensations for spatial orientation and to determine their position and the position of other people and objects. The ability to orient themselves in space gives students a sense of independence and autonomy vital for personal development.

The physical development of children with visual impairments may be less intense due to difficulties with visual-motor orientation and a general decrease in cognitive activity. Reduced physical activity negatively affects the overall physical development and health of blind children. Unfulfilled natural motor activity can sometimes manifest as compulsive movements (such as rocking their bodies, pacing in place, or fidgeting with their fingers). Frequently, difficulties are observed in perceiving their bodies in space and issues with coordination and balance. However, challenges in physical development can be successfully overcome by stimulating motor activity and the development of fundamental movements in these children.

The speech development of students with visual impairments is characterized by a lack of sensory experience, leading to a disconnect between their concrete understanding and verbal expression. In other words, a student may describe an object or phenomenon well but needs to recognize or know its purpose and use. In such cases, we are dealing with the verbalization of

concepts, which should be considered when assessing the knowledge of students with visual impairments. Additionally, children may experience speech articulation difficulties due to the inability to imitate adult articulation visually. As a result, expressive aspects of speech are often compromised; their speech tends to be monotonous and "fading". Students who cannot observe the listener's reaction to their speech cannot effectively control it. This leads to complications in establishing and maintaining interpersonal communication with others. To improve communication quality for visually impaired students, they must receive constant feedback from their interlocutors.

Cognitive development in students with visual impairments faces several barriers, including imperfect perception, the inability to spontaneously form concepts, involuntary acquisition of knowledge, imitation, and self-learning. The ideas of students with visual impairments are often fragmentary, incomplete, sometimes distorted, schematic, and less generalized. Although other cognitive processes, such as memory, thinking, attention, and imagination, are formed through the exact psychophysiological mechanisms of sighted children, the imperfect concepts of students with visual impairments qualitatively alter their cognitive processes' characteristics (speed, completeness, generalization, etc.).

The inability to perceive objects and phenomena in the environment at a distance results in the unavailability of many objects, such as clouds, stars, trees, animals, birds, and more. Therefore, these gaps in knowledge must be compensated for during the learning process using visual aids (models, diagrams, relief images) and specific verbal descriptions.

The emotional and volitional development of a child with visual impairments is not negatively affected. However, children with visual impairments may be more anxious, less confident in their actions, have lower self-esteem, be passive, and experience fear of unfamiliar objects and phenomena. Such students find it difficult to express their emotions and feelings, as emotions manifest in response to certain stimuli. Additionally, reduced cognitive activity and less access to imitative activities in children with visual impairments may lower their emotional expressiveness, resembling manifestations of autism.

Hyper-protectiveness from parents negatively impacts the formation of will qualities in students with visual impairments. Children with visual impairments often exhibit dependence, uncertainty in their abilities, and a reluctance to complete tasks they have started. These manifestations can be effectively overcome through joint activities with peers under the guidance of educators and psychologists. [1; 8, p. 155-170].

Recommendations for organizing learning. When planning a lesson, it is important to include practical materials for students with visual impairments to complete specific tasks. It is advisable to divide the class into subgroups so that students with visual impairments are maximally involved in the learning process and can demonstrate their abilities successfully. It should also be

considered that students with visual impairments will need more time to complete specific tasks, especially those involving visual work, reading, and writing. Such a student may require additional explanations before starting a task.

Creating collaborative situations between students during lessons and extracurricular activities fosters friendly relationships. When calling on students to answer questions, it is better to use their names, as this will help students with visual impairments to memorize their classmates more quickly and recognize them by voice. General recommendations for developing learning skills are outlined in Table 3.

Table 3

 develop visual perception skills, the ability to focus one's gaze, follow a moving object, and active listening skills; to develop skills in the safe use of magnifying devices; allow approaching the blackboard during the lesson to take a closer look at the information; to replace voluminous entries on the board with individual cards with tasks written in enlarged font; for the performance of specific tasks (primarily related to visual work, reading, writing), give more time for performance, reduce the number of tasks; to mark the texts for reading tasks, use colored stickers, outline, etc.; increase the contrast (boldness) of printed information, line spacing, black-white or black-yellow contrast provide the best visual perception, saturated blue, green or purple on a light yellow
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saturated blue, green or purple on a light yellow and allow the use of printing;
background are well perceived, avoid red color, it is – before starting the task, give an additional
not perceived with specific visual impairments. explanation and find out whether the child
- for notes on the board, it will be better for the understands what is expected of him;
perception of all students to use light chalk (white, – to develop skills in the safe use of special
yellow) on a dark background; this also applies to the equipment;
use of flipcharts (dark paper - light marker); – to form skills of safe search of objects that
- avoid excessive detailing of images, diagrams, have fallen;
tables, diagrams; – to form skills of reading and writing in
- copies of printed materials should be as Brailie and writing in an ordinary font in a
transparent as possible; the shild should make notes with a dark black to device;
- the child should make holes with a dark black - to develop typing skins on a
with a papail.
in mothematics lessons, it is advisable to use
- In mathematics ressons, it is advisable to disc
arithmetic operations
_ work with measuring devices should be
demonstrated individually. It is advisable to increase
the units of measurement (2-4 cm instead of 1 cm)
contrast the measuring devices and enlarge the
markings on them.

Recommendations for Developing Learning Skills

Discussion. The justification for the relevance and practical feasibility of social and pedagogical support for children with special educational needs was carried out taking into account the existing regulatory framework, namely, according to the National Strategy for the Development of Inclusive Education for the period until 2029 and the Procedure for Organizing Inclusive Education in General Secondary Education Institutions (2021). The definition of the technology for social and pedagogical support for students with visual impairments was based on a theoretical analysis of domestic and foreign research on the issues of implementing inclusive education and practical experience in educating children with special educational needs within the general educational space.

The theoretical foundation for modeling the technology of social and pedagogical support consisted of studies dedicated to the organization of inclusive education in general secondary education institutions (Kolupaieva, A.A., & Tarachenko, O.M., 2018); issues of differentiated teaching for children with special educational needs in inclusive settings (Kompanets, 2014); methodological approaches to promoting inclusive education to meet various learning needs (Hudym, I., Abilova, O., Potapiuk, L., Nikolenko, L., & Poliakova, A., 2024); organization of learning for students with visual impairments in the general educational space (Johnson-Jones, K.J., 2017); and the social support of students with visual impairments in educational institutions (Manitsa, I. & Doikou, M., 2020). The formulation of practical recommendations for adapting the educational and spatial-physical environment and developing learning skills was based on modern foreign research dedicated to the adaptation of educational programs (Nguyen, T.T., Tran, T.-G., Mai, T.P., Nguyen, T.H., Nguyen, T.B., & Nguyen, T.A.D., 2024); the formation of learning skills (Cmar, J., & Steverson, A., 2023); and on the author's own practical experience in teaching children with special needs.

Conclusions. The defined technologies for the social and pedagogical support of students with visual impairments are aimed at providing methodological assistance to teachers in general education institutions regarding adapting the educational environment to the characteristics and needs of students. The application of recommendations for forming and organizing the support team, organizing the spatial-physical environment of the educational institution, using corrective equipment, and organizing educational activities following the child's developmental characteristics will contribute to overcoming the barriers to inclusive education for children with visual impairments. The comprehensive nature of defining and applying social and pedagogical support technologies for students with visual impairments will facilitate realizing their right to equal access to quality education.

The prospects of this research are seen in the development of methodological recommendations for the social and pedagogical support of children with visual impairments, differentiated by the levels of support they require.

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ТЕХНОЛОГІЇ СОЦІАЛЬНО-ПЕДАГОГІЧНОГО СУПРОВОДУ УЧНІВ ІЗ ПОРУШЕННЯМИ ЗОРУ В ЗАГАЛЬНООСВІТНЬОМУ ПРОСТОРІ

Анотація. В статті представлені практичні підходи до реалізації технологій соціальнопедагогічного супроводу учнів з порушеннями зору у загальноосвітньому просторі. Актуальність досліджуваного питання визначається реформуванням освіти дітей з особливими потребами в сучасних реаліях воєнного стану та пов'язаних з цим труднощів впровадження інклюзивного навчання. Метою статті є надання практичних рекомендацій щодо адаптації освітнього середовища до особливостей та потреб учнів у різних видах навчальної діяльності. У статті використані загальнонаукові методи дослідження: теоретичного аналізу і синтезу для визначення бар'єрів освітнього середовища для навчання і розвитку дітей з порушеннями зору та обґрунтування соціально-педагогічних технологій їх подолання; порівняння – для визначення рівнів підтримки та ефективних засобів адаптації відповідно до особливостей розвитку дітей; моделювання – для обґрунтування дієвих технологій педагогічної підтримки у різних видах навчальної діяльності.

За результатами дослідження висвітлено основні технології соціально-педагогічного супроводу учнів з порушеннями зору в загальноосвітньому просторі, зокрема надано рекомендації щодо формування та організації роботи команди супроводу, організації просторово-фізичного середовища закладу освіти, використання корекційного обладнання, організації навчальної діяльності відповідно до особливостей розвитку дитини спричинених зоровим порушенням; надано практичні поради щодо методичного забезпечення просторового орієнтування і мобільності, фізичного, когнітивного, мовленнєвого, емоційно-вольового розвитку учнів.

Наукова новизна досліджуваної проблеми полягає у комплексному підході до визначення та застосування технологій соціально-педагогічного супроводу учнів з порушеннями зору. Висвітлені результати дослідження можуть бути використані педагогами закладів загальної середньої освіти, в яких навчаються діти з порушеннями зору для адаптації освітнього середовища до потреб дітей.

Ключові слова: соціально-психологічний супровід, учні з порушеннями зору, інклюзивне навчання, бар'єри соціального та фізичного середовища, освітній простір, адаптація.

Стаття надійшла до редакції 09.08.2024. Стаття прийнята до публікації 21.08.2024.