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ІНДИВІДУАЛЬНІ СТРАТЕГІЇ НАВЧАННЯ МОЛОДШИХ ШКОЛЯРІВ ІЗ РОЗЛАДАМИ АУТИСТИЧНОГО СПЕКТРА ЯК ОСВІТНЯ ІННОВАЦІЯ XXI СТОЛІТТЯ

Анотація. *Висвітлено проблему раннього дитячого аутизму як поширеного явища у світовій психологічній та педагогічній практиці. Наведено статистичні дані та результати сучасних досліджень у галузі початкової та спеціальної освіти.*

Мета статті – надати теоретичне обґрунтування індивідуальних стратегій навчання учнів початкової школи з розладами аутистичного спектру як освітньої інновації XXI століття.

У процесі розроблення проблеми впровадження індивідуальних стратегій навчання дітей молодшого шкільного віку з РАС як освітньої інновації XXI століття застосовано комплекс теоретичних методів науково-педагогічного дослідження, як-от: вивчення та аналіз наукової літератури, нормативних документів, статистичних даних для з'ясування стану обраної проблеми в сучасній теорії початкової та спеціальної освіти; конкретизація, індуктивний метод для визначення сутності ключових понять, вироблення індивідуальних стратегій навчання для дітей молодшого шкільного віку з РАС; узагальнення, систематизація для формулювання дискусійних питань та висновків на основі результатів наукового дослідження.

Були оцінені результати психолого-педагогічних досліджень і виявлені типові помилки, що допускаються у процесі взаємодії батьків і вчителів із дітьми з РАС. Наведено приклади індивідуальних стратегій навчання молодших школярів із РАС і правила реалізації цих стратегій.

Зроблено висновок, що індивідуальні стратегії навчання молодших школярів із РАС можуть значно зменшити прояви аутизму і допомогти встановити позитивний емоційний контакт між дітьми і батьками, стимулювати інтерес дітей із РАС до навколишнього світу, їхню активність і бажання взаємодіяти, зменшити епізоди самоагресії, зовнішньої агресії та негативізму, а також покращити мовленнєвий розвиток.

Ключові слова*: індивідуальні стратегії навчання; молодші школярі; розлади аутистичного спектра; освіта; інновації; інклюзія; початкова школа.*

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INDIVIDUALIZED TEACHING STRATEGIES FOR YOUNGER SCHOOLCHILDREN WITH AUTISM SPECTRUM DISORDERS AS AN EDUCATIONAL INNOVATION OF THE 21ST CENTURY

Abstract. *The problem of early childhood autism as a widespread phenomenon in global psychological and pedagogical practice has been highlighted. Statistical data and results of modern research in the field of primary and special education are presented.*

The purpose of the article is to provide a theoretical justification for individual teaching strategies for primary school children with autism spectrum disorders as an educational innovation of the 21st century.

In the course of developing the problem of implementing individual learning strategies for primary school children with ASD as an educational innovation of the 21st century, a set of theoretical methods of scientific and pedagogical research was applied, such as: studying and analyzing scientific literature, regulatory documents, and statistical data to clarify the state of the selected problem in modern theory of primary and special education; concretization, inductive method to determine the essence of key concepts, development of individual learning strategies for primary school children with ASD; generalization, systematization to formulate discussion points and conclusions based on the results of scientific research.

The results of psychological and pedagogical studies were evaluated, and typical mistakes made in the process of interaction between parents and teachers with children with ASD were identified. Examples of individual teaching strategies for younger schoolchildren with ASD and rules for implementing these strategies are provided.

Conclusions. It was concluded that individual learning strategies for younger schoolchildren with ASD can significantly reduce the manifestations of autism and establish positive emotional contact between children and parents, stimulate the interest of children with ASD in the surrounding world, their activity and desire to interact, reduce episodes of self-aggression, external aggression, and negativism, and improve speech development.

Keywords: *individual learning strategies; younger schoolchildren; autism spectrum disorders; education; innovation; inclusion; primary school.*

Introduction. According to the World Health Organization, one in 160 children suffers from autism spectrum disorder (ASD), and according to the Public Health Center of the Ministry of Health of Ukraine, one in 88 children has autism. It is believed that with early intervention, such a child can be fully adapted to social life.

According to statistics, as of 2023, there are 20,936 children with ASD registered in Ukraine. This is evidenced by information received from the National Health Service of Ukraine (NHSU) in response to a journalist's request from Ukrinform. According to the electronic health care system (ESOZ) registry, most children with autism live in Kyiv (3,891) and the surrounding region (1,209), as well as in Rivne (1,253), Kharkiv (1,246), and Lviv (1,117) regions. In the Chernihiv region, there are 333 children diagnosed with autism, in Sumy region – 343, Ternopil region – 370, Volyn region – 374, Kherson region – 389, Ivano-Frankivsk region – 435, Odesa region – 490, Poltava region – 540, Donetsk region – 627, Mykolaiv region – 630, Vinnytsia – 647, Kirovograd – 652, Zhytomyr – 735, Chernivtsi – 821, Zaporizhia – 909, Zakarpattia – 910, Cherkasy – 937, Dnipropetrovsk – 983, Khmelnytskyi – 994 [10].

The clinical features of autism are closely related to the psychological and social problems associated with this disorder. In this regard, it should be emphasized that the diagnosis of autism in a child places a heavy burden on the family, requiring strict adherence to medical and psychological recommendations, as well as social and domestic restrictions. The usual rhythm of activity of all family members changes, as do typical family leisure and recreation activities, and economic costs increase and are redistributed. In addition, the diagnosis of ASD in a child contributes to increased psychological tension in the family, caused by parental fear of the clinical manifestation of the disease, feelings of guilt, hopelessness, and the expectation of a breakdown in social interaction.

However, parents' psychological reactions and awareness of the disease depend not only on external stress factors, but are also determined individually psychological and adaptive-compensatory mechanisms of family members, which are partly formed under the influence of suggested ideas about the disease and, accordingly, the destructive stigmatization of society towards children with ASD. Early comprehensive diagnosis of the disease is of particular importance in this context.

Autism is an «escape» from reality with a fixation on the inner world of affective complexes and experiences. Childhood autism is a fairly common phenomenon in global psychological and pedagogical practice. However, in Ukraine, there are practically no specialists who not only understand this specific mental development disorder but are also able to provide qualified assistance to families with children with ASD. Most often, parents who encounter this problem make their own diagnosis and begin to fight uncompromisingly for their child.

Ukrainian psychologists have proven that every child with ASD can gradually progress toward more complex interactions with people at their own pace and with varying degrees of success [1]. At the same time, it is the family environment that plays a major role in the corrective and developmental work, social and psychological adaptation of children with ASD, and determines their quality of life. However, the parents of such children and their family members are often unprepared for special interaction. This problem can be minimized with early diagnosis and corrective assistance; in this case, it becomes possible not only to overcome autistic manifestations, but also to gradually socialize the child.

The problem of methodological development and scientific justification of individual learning strategies for younger schoolchildren with ASD remains relevant today. Children diagnosed with ASD need constant psychological and pedagogical support. It is important that parents and specialists have knowledge about the peculiarities of supporting such children, technologies for teaching communication and interaction with society, and have in their arsenal ways and means for teaching them to express their own needs and requests.

As T. Bulba notes, one of the first to use the concept of «strategy» in the context of learning in his scientific works is J. Rubin. Observing the activities of students while learning a language, the researcher concludes that the most successful students apply certain strategies in their learning. This allows us to interpret «learning strategies» as «techniques or methods that children can use to acquire knowledge» [4, p. 47]. Ukrainian scholars A. Kolupaeva and O. Taranchenko consider the essence of the key concept of «learning strategies» to be «techniques that teach thinking and their main goal is to develop children ability to expand the scope of application of these techniques in order to learn how to think» [11, p. 56]. A somewhat similar definition of the concept of «individual learning strategy» is offered by L. Sherstyuk as «a system of skills, methods, and techniques characteristic of an individual for solving various tasks in order to achieve their goals» [12, p. 189].

Analysis of recent studies and publications. Significant results of research into learning strategies over the last four decades are mainly contained in the scientific works of Western psychologists and educators (P. Alexander, K. Amez, J. Biggs, R. Garner, P. Gu, S. Derry, P. Ertmer, F. Kano, J. Levin, R. Meyer, D. Murphy, G. Miller, J. Nisbet, T. Newby, G. Pasch, M. Pressley, J. Rini, H. Salatas, A. Simsek, G. Turner, K. Weinstein, M. Tsai, B. Zimmerman, K. Chen, J. Shaksmith and others) [4]. However, the works of these foreign researchers provide only a general definition and structure of the concept of «learning strategy». It is also difficult to imagine a clear conceptual framework that would define the structural components of individual learning strategies, their pedagogical mechanisms, and principles of implementation, which we explain by the subjective methodological position of the authors. Regarding the implementation of individual learning strategies for younger students with ASD, there are only a few publications in journals.

We would like to focus on the approaches used by foreign researchers to educate children with ASD, which are considered scientifically sound. Special attention should be paid to the publications of American psychologists Sally J. Rogers and Geraldine Dawson [17] – developers of the Early Start Denver Model (ESDM), which combines behavioral and corrective-developmental approaches, taking into account the individual characteristics of the development of children with ASD, their interests, and level of social interaction. Their scientific work is devoted to the early diagnosis of autism, the individualization of education for children with ASD, the development of communication, play, and social skills, and the effectiveness of early intervention. Another American researcher, Robert Koegel [18], is the author of the Pivotal Response Treatment (PRT) method, which aims to develop motivation to learn, communication skills, and self-regulation in children with ASD. The clinical and pedagogical approach he developed involves individualizing the education of children with ASD and actively involving the family.

The works of Belgian neurolinguist and autism specialist Theo Peeters [19] lay the foundation for modern inclusive approaches in education based on the TEACCH approach (structured environment, visual schedules, individual tasks). This approach is distinctly therapeutic in nature, and its essence has been expanded upon in the works of scientists Eric Schopler and Gary Mesibov.

British scientist Diana Seach [20] is a specialist in special education who has developed interactive games and social learning programs that take into account the individual characteristics of children with autism in mainstream schools. Her original program, SMILE, is the first to present a set of strategies based on interactive games that involve: establishing a connection (finding a way to «connect» with the child in their personal space); stimulating communication (using game situations to develop verbal and nonverbal communication skills); creating meaning (helping the child understand the symbolic meaning of objects and actions); developing imagination (moving on to creative games that promote flexible thinking).

American researcher Brenda Smith Myles, together with other scientists (Melissa L. Trautman & Rhonda L. Shelvan) [21] has devoted her scientific work to practical pedagogical strategies for teaching children with Asperger syndrome and autism, in particular, social stories, teaching the «hidden curriculum», and adapting the learning environment. The following teaching strategies deserve special attention: «Safe Person» (finding a person to whom you can ask any social question without fear of judgment); «Power Card» (using the child's cognitive interests to explain social rules); «Social Autopsies» (analyzing social mistakes after they have occurred to understand the causes and consequences of actions); «SOCCSS system» (Situation, Options, Consequences, Choices, Strategies, Simulation) (teaches step-by-step analysis of situations, possible actions, and their consequences).

The research paper by Kara Hume and other authors «Evidence-Based Practices for Children, Youth, and Young Adults with Autism: Third Generation Review» [22] is one of the most authoritative contemporary reviews, systematizing strategies with proven effectiveness for preschool and early school-age children, adolescents, and young adults up to age 22 with autism. The authors consider only those interventions that have a significant impact on behavior, learning, or development. They propose using such strategies as a foundation for developing educational programs, clinical guidelines, and other practices in the field of special education. At the same time, K. Hume et al. emphasize the difference between focused practices (specific techniques for developing individual skills) and comprehensive programs (large-scale programs consisting of many techniques). The researchers base these strategies on the idea of building effective support from «building blocks» – that is, individual interactions with children and youth with ASD. Examples of such strategies (of which there are approximately 28) include reinforcement (encouraging desired behavior), prompting (assisting with actions), modeling (demonstrating correct behavior), functional behavior analysis, functional communication training, naturalistic interventions (in everyday situations), parent-implemented interventions, peer-mediated interventions, alternative and augmentative communication, cognitive-behavioral strategies, etc. [22].

Research is important Jia White and other authors «Creating Inclusive Schools for Autistic Students: A Scoping Review on Elements Contributing to Strengths-Based Approaches» [23]. In it, the authors move away from the traditional approach, which focuses on the shortcomings and challenges faced by autistic pupils aged 8 to 18, and instead propose an alternative strengths-based approach that draws on the strengths, interests,

and abilities of students with ASD, helping to organize learning based on their strengths and achievements. This approach is proposed to be implemented at four levels:

1) the individual level (person), the central element of which is the strengths and interests of the pupils with ASD;

2) the micro level (class, teacher, classmates), which includes specialized instruction, integration of interests into the curriculum, differentiation of tasks, leveraging shared interests with peers, and mutual roles and support from adults;

3) meso level (interaction between environments), which involves coordinating resources and activities within the school, learning through real-life situations, and benefits not only for pupils with ASD but for all pupils;

4) exo level (system, organization), implemented through collaboration between teachers and parents, the competence and attitudes of educators, and practicality (saving time and resources) [23].

A study conducted by Jia White et al. shows that schoolchildren with ASD can improve their social skills, school experience, and well-being, boost their academic performance, and strengthen their self-esteem.

A systematic review conducted Yung-Ting Tsou and other authors «School-Based Interventions for Increasing Autistic Pupils' Peer Interaction and Social Inclusion» [24], shows that certain strategies have a positive impact on the interactions of autistic schoolchildren with their peers when they are included in mainstream schools. In this context, the frequency and quality of interactions, participation in shared activities, friendships, and social status within the classroom play a decisive role.

Yung-Ting Tsou and other authors base their conceptual framework of inclusion levels on accessibility (the child's presence), integration (interaction), and inclusion (a sense of belonging), which enables the implementation of the following strategies:

– at the child level: training in social skills, learning to initiate and maintain interaction;
– at the peer level (peer-mediated): teaching normal-type schoolchildren to interact with autistic «peer buddies», support groups;
– at the staff level: training for teachers and assistants, teaching facilitated interaction;
– at the physical environment level: changes in the classroom or on the playground, organizing space for interaction [24].

This joint publication deserves special attention Yasamin Bolourian and other authors «General Education Teachers' Perceptions of Autism, Inclusive Practices, and Relationship Building Strategies» [25], which examines the inclusive and interaction-oriented strategies currently used by elementary school teachers, as well as the professional challenges that arise during their implementation. Despite a fairly accurate understanding of the core features of autism (difficulties with social interaction, «social distance», sensory sensitivities, emotional regulation, and narrow, subjective interests), most teachers face specific challenges. Among these difficulties, the most common are insufficient teacher training for working with autistic schoolchildren, low confidence in their skills, stress caused by the behavior of such schoolchildren, and the haphazard implementation of inclusion.

Yasamin Bolourian and other authors are advised to implement the following inclusive strategies: 1) leveraging strengths, showcasing the talents of students with ASD, and taking their interests in learning into account; 2) assigning roles and responsibilities through the completion of «special tasks»; 3) individualizing instruction by adapting tasks and using interests as motivation; 4) providing emotional support through patience, consistency, and acceptance of differences; 5) focusing on interests by utilizing the schoolchildren specific interests, individual contact, one-on-one interaction, and personal attention; 6) collaborating and communicating with parents [25].

Research Katharina-Theresa Lindner & Susanne Schwab in a scientific work «Differentiation and Individualisation in Inclusive Education: A Systematic Review and Narrative Synthesis» [26] does not focus exclusively on ASD, but is relevant for clarifying terminology, as it helps distinguish between differentiation, individualization, accommodation, and adaptation, and also demonstrates that an individualized strategy for a schoolchildren with ASD should theoretically be situated within the field of inclusive education, rather than solely within the framework of special education. The authors use the «one-size-fits-all» model as a basis for accounting for schoolchildren diversity.

Katharina-Theresa Lindner and Susanne Schwab explain the difference between the key concepts of «differentiation» and «individualization» in education as follows. Differentiation involves adapting instruction for specific groups of students who share a common goal but use different methods (tasks, materials, pace) to achieve it. In contrast, individualization of instruction is fully tailored to a specific schoolchildren, as it includes individual goals, personalized tasks, and individualized assessment. The authors also identify five key areas where these approaches are applied: 1) collaboration, co-teaching, and working with teaching assistants, psychologists, and parents; 2) instructional practices (differentiated instruction, varied teaching methods); 3) classroom organization (classroom adaptation, flexible grouping of students); 4) social-emotional support

(positive classroom climate, motivation, consideration of behavioral needs); 5) progress assessment (individualized assessment, various formats of knowledge assessment).

Among the key strategies for teaching children with ASD, Katharina-Theresa Lindner and Susanne Schwab recommend the following: instructional modifications (adjusting content, difficulty, materials, timing, and assessment methods); grouping of students (by level, interests, or goals); individual support (personalized feedback, additional support from teaching assistants or other specialists) [26].

In a scholarly work Laurence Hasson and other authors «Inclusivity in Education for Autism Spectrum Disorders» [27] The report critically examines systemic barriers to inclusion, the lack of support for teaching staff and families, and the fact that simply enrolling a child in a general education classroom does not in itself guarantee a quality education. After all, inclusion is possible only with sufficient support; without it, the well-being of a schoolchildren with ASD suffers, their development is impaired, and inclusion becomes merely formal.

Laurence Hasson and other authors they emphasize that the school system is often unprepared for true inclusion and is therefore poorly organized for children with autism. This is due to a lack of resources and funding, limited access to support, and the fact that parents are forced to «fight» for adequate support. In turn, this affects the quality of life for children with ASD, as insufficient support leads to stress for parents, burnout among teachers, and difficulties for the children. However, despite these challenges, it is important to note the positive aspects associated with the dedication of teachers and parents, specific successful outcomes of inclusion, and the opportunity for schoolchildren to experience support, a sense of belonging to a community, and friendship. It is precisely this support–educational, emotional, organizational, and inter-institutional–that the authors view as a key factor in inclusion [27].

Perspectives on inclusive environments, participation, peer interaction, and the role of the teacher, as well as the specificities of teaching children with autism spectrum disorders, are presented in the scholarly works of Ukrainian researchers V. Atamanchuk, M. Branitskaya [1], N. Gubareva [8] and others. R. Borovich [3], E. Danilavichute, S. Litovchenko [9], A. Kolupaeva, O. Taranchenko [11], L. Sherstiuk [12] and other scientists are working on the development of individual teaching strategies for this category of schoolchildren. The practical aspects of teaching schoolchildren with autism spectrum disorders are being studied by D. Webster [5], I. Grysh [7] and other specialists in the field of special education.

Despite the fact that the number of schoolchildren with ASD entering primary school is steadily growing, the problem of implementing individual learning strategies for them remains insufficiently researched. Among Ukrainian researchers, A. Kolupaeva and O. Taranchenko [11] should be mentioned, who consider the principle of detailed structuring as the conceptual basis for the application of individual learning strategies for primary schoolchildren with ASD in inclusive education. Taking this principle into account, they propose the following strategy for the individual learning of primary schoolchildren with ASD: organizing the physical environment when planning specific activities and providing a mechanism for implementing this strategy:

– «allocate specific places in the classroom for performing specific actions, which for convenience can be marked with rugs, colored tape, or other appropriate markings;

– clearly label materials and allocate a separate place for them;

– hide materials that are not related to the activity planned for that time so as not to distract the children;

– mark the place allocated to the child with their photo or in another way that is understandable to them;

– use different colored bookmarks, folders, or paper clips for different lessons or tasks;

– allocate two boxes to each student: one for tasks to be completed and the other for completed work;

– group all materials for completing tasks and place them in separate transparent folders» [11, p. 112].

Researchers also emphasize that the effectiveness of this strategy largely depends on the use of visual aids, i.e., various visual supports and symbols (simple and complex, concrete and abstract). The expediency of using visual aids is explained by their impact on: «the performance of planned tasks and actions; the development of independence; the facilitation of the organization of the physical environment; the teaching of social skills; the development of communication; the encouragement of appropriate behavior; the clear definition of expectations; the description of options» [11, p. 113].

Taking into account the scientific achievements of foreign and Ukrainian researchers, we have attempted to summarize specific teaching strategies for elementary schoolchildren with ASD, which were identified through observations of teachers and their assistants in inclusive classrooms at general education schools in Cherkasy.

The purpose of the article is to provide a theoretical justification for individual teaching strategies for primary schoolchildren with autism spectrum disorders as an educational innovation of the 21st century.

Methods. In examining the issue of implementing individualized learning strategies for primary schoolchildren with autism spectrum disorders as an educational innovation of the 21st century, we employed a range of scientific and pedagogical research methods:

theoretical – the study and analysis of academic literature, regulatory documents, and statistical data to assess the current state of the selected issue in modern theory of primary and special education; specification, an inductive method for defining the essence of key concepts; generalization, systematization for formulating discussion questions and conclusions based on the results of scientific research;

empirical – discrete observation to identify behavioral characteristics of primary schoolchildren with ASD during the implementation of individualized learning strategies, and the study of best practices in inclusive education and methods of remedial and developmental work (visual schedules, flashcards, and icons; visual instructions and step-by-step diagrams; social stories; visual timers; «first-then» systems; visual cues in the environment; as well as individualized learning strategies (by Danilavichiutie, E. A., & Lytovchenko, S. V.).

Results. Our research interest in the issue of individualized learning strategies for primary schoolchildren with autism spectrum disorders stems from the fact that, over the course of many years of training undergraduate students majoring in «Primary Education», we place significant emphasis on the professional prospects of graduates from the Department of Primary and Special Education at Bohdan Khmelnytsky National University of Cherkasy in inclusive classrooms. To this end, the educational components of the professional training program include the courses «Fundamentals of Special Pedagogy and Inclusive Education», «Methods of a Teacher's Assistant in an Inclusive Classroom», teaching practicums in inclusive classrooms at general secondary education institutions, as well as the completion of course research projects on these topics during the final year of study. In addition, the content of the core academic disciplines is reinforced by the elective course «Individualized Learning Strategies for Primary Schoolchildren», which includes three content modules:

1) the use of adaptive technologies in primary education;
2) individualized instruction as the basis for implementing personalized strategies for pedagogical interaction with different groups of primary schoolchildren;
3) inclusive education and inclusive instruction: a systemic perspective.

In this article, we explain our focus on primary schoolchildren with autism spectrum disorders in response to requests from students who face challenges interacting with such children during their teaching practicums in inclusive classrooms. The situation is complicated by the fact that the findings of leading foreign researchers somewhat contradict the empirical data obtained by Ukrainian scientists. Despite the promotion of inclusive education in the domestic education system, foreign researchers emphasize the advisability of placing children with psychophysical developmental disorders in special educational institutions. For example, Gabriel Wilcox, Christina Fernandez Conde and Amy Coble argue that «in addition, full inclusion for all does not take into account the preferences of students or parents, as was found in one study in which parents whose children attended special education classes (92%) were more satisfied with their children's placement than those who attended inclusive classes (47%). Moreover, according to a study conducted in the United Kingdom, more students were satisfied with their inclusion in special education programs (92%) than in general education classes (64%)» [14, c. 21]. Furthermore, teaching strategies that are effective in international educational practice (preparation, processing, organizational, metacognitive, motivational, or affective strategies) [4, p. 47], are not always useful in pedagogical interactions with younger students with autism spectrum disorders in the context of inclusive education in Ukraine.

A systematic analysis of the results of 24 experimental studies of individual learning strategies for primary schoolchildren's with ASD conducted by a group of foreign scientists [15] confirms that adapted teaching methods significantly improve learning outcomes and access to the general education program. The argument confirming the feasibility of implementing individual learning strategies for primary schoolchildren with ASD is supported by the results of a study by a group of American scientists Ann M. Sam, Samuel L. Odom, Brianna Tomaszewski, Yolanda Perkins, and Ann W. Cox [16]. In their study, conducted in 60 primary schools with 486 children's, they compared inclusive educational programs using individual learning strategies with traditional teaching. The results showed a significant improvement in the quality of educational programs and learning outcomes in those groups where individual learning strategies were used.

As we can see, at the start of a child's schooling, it is essential to clearly understand that remedial and developmental work with a child with ASD in an inclusive setting is a system of measures aimed at preventing barriers from arising between the child and other students in the classroom, as well as at strengthening the communicative, cognitive, and regulatory mechanisms of their personal development. Such work includes lessons, extracurricular educational activities, the preparation and conduct of holiday events, field trips (excursions, walks), communication during breaks, and outdoor games.

During their teaching practicum in inclusive classrooms in the city of Cherkasy, students had the opportunity to learn about methods of Augmentative and Alternative Communication (AAC) used when interacting with younger students with ASD. These methods help children with ASD express their thoughts, needs, and emotions, interact with others, and, in some cases, develop speech. The main types of AAC methods include non-technical (gestures, facial expressions, body language, sign language), low-tech (picture cards, communication books), and high-tech (special tablets and devices, communication apps, in particular,

Proloquo2Go). High-tech AAC methods are effective for promoting speech in children with autism, especially when speech is absent.

According to data from the Department of Education and Humanitarian Policy of the Cherkasy City Council, as of 2025, there were approximately 178 children with ASD registered in the city, of whom about 40–60 were primary schoolchildren. Since, during their teaching practicum, students assisted the teacher's aide in interacting with primary schoolchildren with ASD who had developed some degree of speech, priority was given to individual visual support strategies. The essence of these strategies lies in the fact that visualization allows educational information to be made concrete and makes it more understandable for primary schoolchildren with ASD. At the same time, this reduces stress, increases the child's independence, and improves their communication and behavior.

The students had the opportunity to familiarize themselves with a visual schedule consisting of a sequence of images (symbols) designed to illustrate the daily routine. This helped students with ASD better understand the sequence and types of activities, organize their behavior during class and recess, and reduce anxiety.

Cards and pictograms (PECS, symbols) depicting objects, actions, or emotions proved to be effective in helping children with ASD make choices and formulate requests. For example, a child might show a «water» card to ask for a drink. In addition, visual instructions were used to provide step-by-step guidance on «how to complete a task». Such instructions were most helpful during writing (for example, «open your notebook → take a pen → write the date»), doing exercises, and maintaining personal hygiene.

Social stories – short illustrated stories about social situations from a child's life that explain the rules of expected behavior – have proven to be an important component of individualized learning strategies for students with ASD. The topics covered in these social stories are quite diverse: how to behave in class, what is allowed during recess, and so on.

When implementing individualized learning strategies for primary schoolchildren with ASD, it is also advisable to use visual timers that display the time in a way that is easy for the child to understand. This is particularly helpful when switching activities, needing to take shelter during an air raid alert, and so on. A somewhat similar system is the «First–Then boards», which helps the teacher's assistant in an inclusive classroom demonstrate the sequence of actions, for example, «first counting → then rest». Modifications of visual cues in an inclusive primary school setting include stickers and colored markers that help schoolchildren with ASD navigate the classroom: where to sit, where to go, what to take.

At the beginning of school education, it is necessary to clearly understand that corrective and developmental work with a child with ASD in an inclusive environment is a system of measures aimed at preventing the emergence of barriers between the child and other students in the classroom, as well as strengthening the communicative, cognitive, and regulatory mechanisms of their personal development. Such work includes lessons, extracurricular educational activities, preparation and conduct of celebrations, extracurricular activities (excursions, walks), communication during breaks, and outdoor games.

Also to implement inclusive education for primary schoolchildren with ASD, we recommend that teachers use the following individual strategies [9]:

First strategy. It is necessary to prepare the primary schoolchildren in the class for the fact that a child with special educational needs will be studying with them. To do this, you should:

– create a comfortable environment in the classroom, establish friendly relationships between primary schoolchildren so that the child with ASD feels like a full member of the group;

– encourage students to help when necessary and take care of such a child;

– stop any manifestations of disrespectful attitude towards a child with ASD.

Second strategy. Before a child with ASD starts primary school, familiarize yourself with their medical history in advance. To do this, it is advisable to talk to the child's parents, review medical records, and determine the root cause of ASD (early childhood illness, medication effects, etc.).

Third strategy. Study medical and special educational literature to understand the specifics of inclusive education for primary schoolchildren with ASD. Also, study in detail the characteristics of the mental development of such children (memory, attention, thinking, emotional and volitional sphere, pace of learning, working capacity, behavioral manifestations). For children with ASD, an important factor in primary school education is an adequate understanding of their mental characteristics by teachers, school staff, classmates, and parents. It should also be emphasized that children with ASD have the same rights as all other primary schoolchildren and that they can master the curriculum individually, albeit with the use of special means that are more accessible to them.

Fourth strategy. Familiarize yourself with modern pedagogical approaches and methods used in teaching primary schoolchildren with ASD. It is desirable to have special educational programs for the corresponding grade in elementary school in order to have an idea of what knowledge, skills, and abilities such a child should have mastered by the end of the school year.

Fifth strategy. It is important to note that the success of a child with ASD in cognitive activities correlates with their motivation to perform tasks that are accessible and interesting to them. An individual learning strategy ensures that such a child is included in the overall educational process, actively performs tasks, and identifies themselves as an equal member of the class.

Sixth strategy. Primary school teachers must understand and convey to other teaching staff that they should position themselves not only as teachers who patiently accept students with ASD in the classroom, but also as schoolchildren who are always ready to prevent problematic situations from arising, where it is not necessary to focus the attention of the class on the shortcomings of such a child. In the event of autistic manifestations (spinning, rocking, and other stereotypical actions), without unnecessary panic and fuss, suggest that the child with ASD move to another room with the teacher's assistant, and continue the lesson or educational activity yourself. Under no circumstances should you comment on the situation or show dissatisfaction. However, if any of the primary schoolchildren want to find out more about the characteristics of the actions and behavior of a child with ASD, you can answer all questions concisely, accessibly, and as tactfully as possible.

Discussion. Individual learning strategies for primary schoolchildren with ASD as an educational innovation of the 21st century are personally oriented, systematic, and structured, and have a targeted, comprehensive nature. The main part of inclusive education consists of classes with autistic children both in primary school and outside of it. Classes should create conditions for social adaptation to life in society:

- development of communication skills;
- preparation for learning;
- comprehensive development of the child;
- individual learning programs;
- psychological and pedagogical support outside of school hours;
- provision of medical care;
- preparation of family members to work with such children in difficult conditions [1].

It should be remembered that children with ASD are characterized by an acute need for contact and emotional dependence on adults. Therefore, developing emotional interaction with the outside world can reduce autistic and negative attitudes and overcome aggressive tendencies. Communication disorders in children with ASD are associated with the formation of a specific barrier that protects them from painful contact. It is necessary to prevent increased vulnerability and the development of forms of protective hypercompensation of autism, such as stereotypical behavior and self-stimulation. Ukrainian scientists A. Kolupaeva and O. Taranchenko [11] have formulated rules for implementing individual learning strategies for younger schoolchildren with ASD:

1) avoid pressure and direct communication;
2) organize initial contacts at a level appropriate for the child within the scope of their activity;
3) diversify the child's usual pleasures, reinforce them with your own positive emotions;
4) do not force the child's need for affective contact;
5) complicate forms of contact only after the child's need for contact has been established, when the adult becomes the positive affective center of the situation;
6) complicate tasks only by introducing new details into the structure of existing forms;
7) dose contacts;
8) once an affective connection is achieved, the child becomes more trusting and must be protected from conflict with loved ones;
9) as contact is established, the attention of a child with autism is gradually directed toward the learning process, thereby creating confidence in the results of joint contact [11].

When selecting individual learning strategies for younger schoolchildren with ASD, it is important to work in partnership with parents to identify the child's early childhood development characteristics, skills and abilities, preferences, and habits. Pedagogical observation is important, as it yields positive results in various learning situations and when getting to know the preferences of a child with ASD, their communicative and motor characteristics, play abilities, and self-care skills.

Conclusions. Thus, individualized learning strategies for primary schoolchildren with ASD in inclusive settings help foster positive emotional bonds between children and their parents, stimulate children with ASD's interest in the world around them, their engagement, and their desire to interact, and improve their language development.

A partnership between primary school teachers and parents of children with ASD helps parents better understand their child's challenges and feel confident in their ability to interact with them. Parents strive to develop a unified family strategy for interaction, learn to manage their child's emotional states, recognize the importance and necessity of individualized learning strategies, stop «paying off debts» to their child, and become truly happy parents of a special child.

If a supportive environment is created in primary school, schoolchildren will not avoid children with ASD, not only in the classroom but also later in life. At the same time, it is desirable for children with ASD to find a friend within the first few weeks of school. It is believed that normotypical children who have learning or behavioral difficulties are happy to support those who need extra help. In this case, the child is motivated to overcome their own learning difficulties and become a role model for their friend with autism.

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