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The Education University  
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# 科技聯通：一帶一路特殊教育會議

Bridging Borders Through Technology:  
Belt & Road Conference on Special Education  
Преодолевающая границы с помощью технологий:  
конференция «Один пояс, один путь» по  
специальному образованию

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Bridging Borders Through Technology:  
Belt & Road Conference on Special Education

# Conference Proceedings

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### A model of socialization of children with autism spectrum disorders, complicated by combined disorders, in conditions of special and inclusive education

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**Annotation.** The article presents statistics on children with ASD in Karaganda region and presents a model of the process of socialization of children with ASD complicated by combined disorders in special and inclusive education. The model identifies the most important areas of work on the socialization of children with ASD in the process of psychocorrective, educational, and extracurricular activities using methods of applied behavior analysis, environmental adaptation, social histories, sensory integration and the active inclusion of parents and normotypic peers.

**Introduction.** Autism spectrum disorder (ASD) is one of the pressing problems of childhood, requiring close attention from pedagogical, psychological and medical science. The number of identified cases of autism in children in Kazakhstan has been growing in the last 7 years - the figure has increased 5 times. Data from psychological, medical and pedagogical consultations in the Karaganda region confirm the trend of a stable increase in the number of children with autistic manifestations, for example, if 491 children were identified in 2020, then it is 1266 in 2024 (statistical data Karaganda Regional Psychological, Medical and Pedagogical Consultation, 2025).

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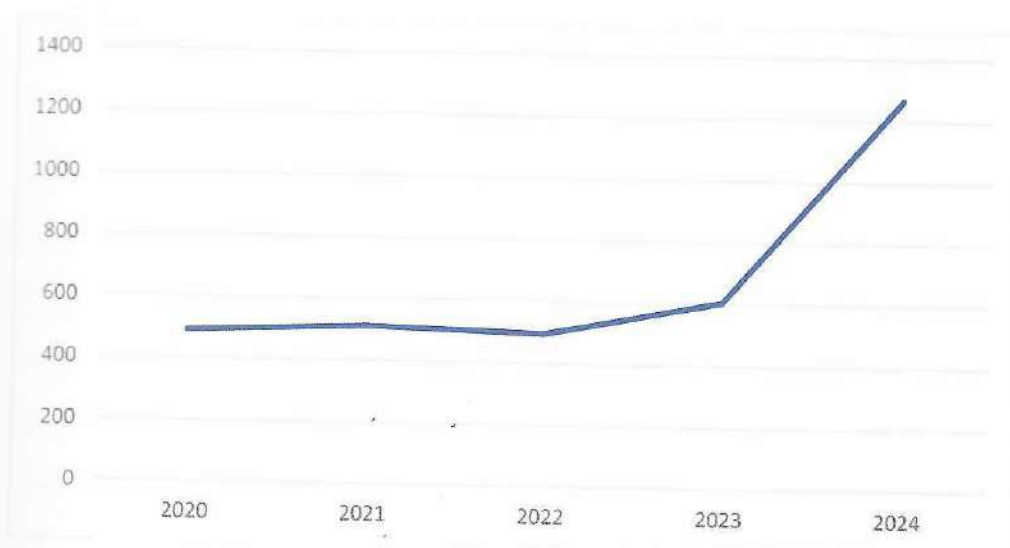


Figure 1. Dynamics of growth in the number of children with ASD

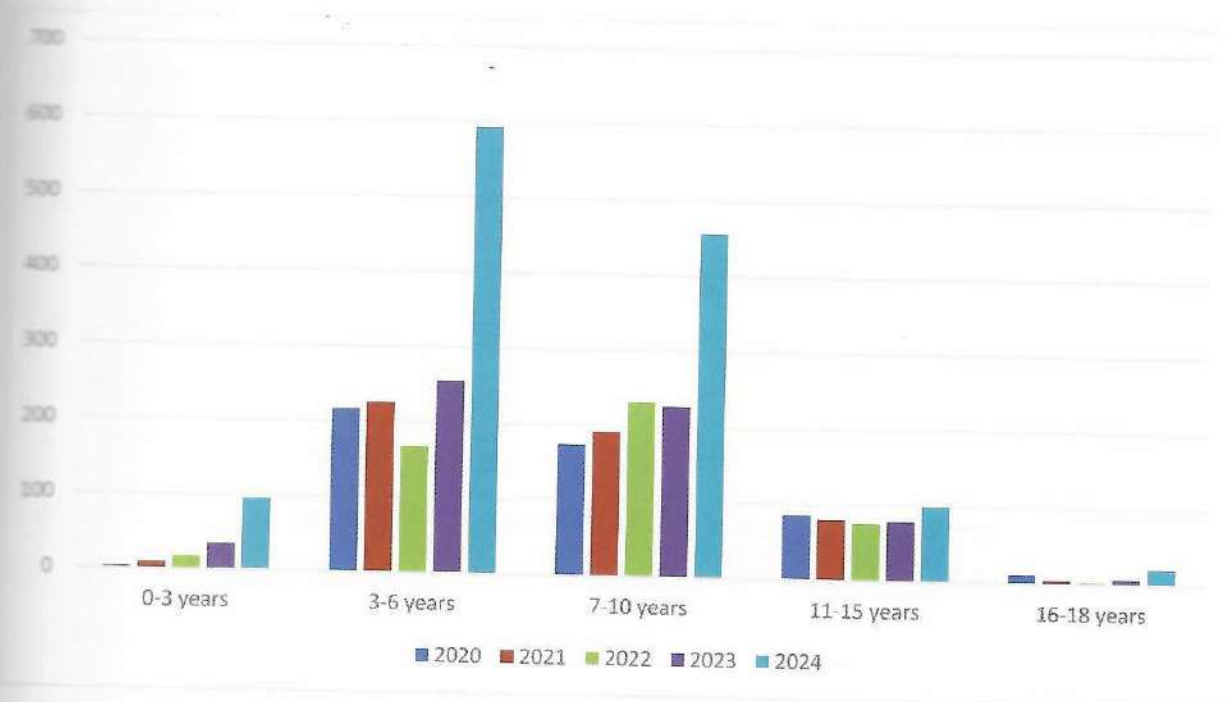


Figure 2. Relation of ASD to age

Table 1. Number of children with ASD in educational institutions of the Karaganda region

Name	Number
Special schools, special kindergartens	112
Special classes (groups) at general education organizations	116
In general classes (groups) at general education organizations	309

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Homeschooling	26
Vocational schools, colleges	1
Other educational, health care, social protection organizations	0
Temporarily out of education	0
Rehabilitation centers	88
Psychological and pedagogical correction rooms	237
Private organizations	0
Support Center for Children with Autism	377

**Materials and methods.** In order to identify the conditions for implementing the model, a survey was conducted among special educational organizations of the Karaganda region. 494 teachers took part in the survey, including 253 from general education schools and 178 from special schools.

71 teachers consider that the main task of socialization in school of a child with ASD complicated by intellectual disabilities is teaching them reading, writing, basic mathematical skills of counting, etc. 51 teachers believe that it is more important to teach how to communicate with peers. 45 teachers see the main meaning of socialization in the formation of the child's independence. 20 - in getting rid of undesirable forms of behavior, 18 - to teach following generally accepted norms of behavior in the classroom, 12 - to teach verbal speech.

According to 98 teachers, the main thing in the difficulties that children with complicated by intellectual disabilities ASD face in school is that they are trained in programs that do not take into account the features of behavior, interaction with others and the level of intellectual development at the same time. 74 teachers believe that the class and lesson system mostly does not imply the creation of special conditions for children with an ASD complicated by intellectual disabilities. 26 respondents see the problem in unpreparedness of some teachers to competently interact with children with ASD complicated by intellectual disabilities. 17 teachers see the problem in the fact that educational

work at the school is not adapted to the needs and features of the development of children with ASD complicated by intellectual disabilities.

Children with ASD depending on the level of intellectual development and integrity of vision, hearing, speech, musculoskeletal system, are sent to study in different types of special education organizations, where infrastructure and educational environment do not fully support the individuality and features of children with ASD complicated by intellectual disabilities.

**Results and discussion.** In the proposed model, the components of the process of socialization of children with ASD complicated by intellectual disabilities are:

Motivational-value component (the presence in child of a social motivation, interest in others, attitude to the moral values of society).

Socio-functional component (the process of mastering the social model of behavior, the level of involvement in joint activities with others, the possession of "social knowledge").

Functional-communicative component (child having a functional speech in various communicative situations).

Cognitive-evaluative component (the zone of the actual development of the child, the ability to realize, plan, implement educational tasks, evaluate the results of their solutions, apply the knowledge gained in various life situations).

Each component of the model below is closely interconnected with other elements. However, the proposed model is open, and can be improved and changed.

To assess the level of socialization, the following are highlighted:

*Maladaptive level:* lack of motivation to learn, undesirable behavior, rejection and non-compliance with class rules, unformed gender and age identification, low level of memory development, thinking operations, verbal and non-verbal intelligence, lack of impressive and expressive speech, lack of neatness and self-service skills.

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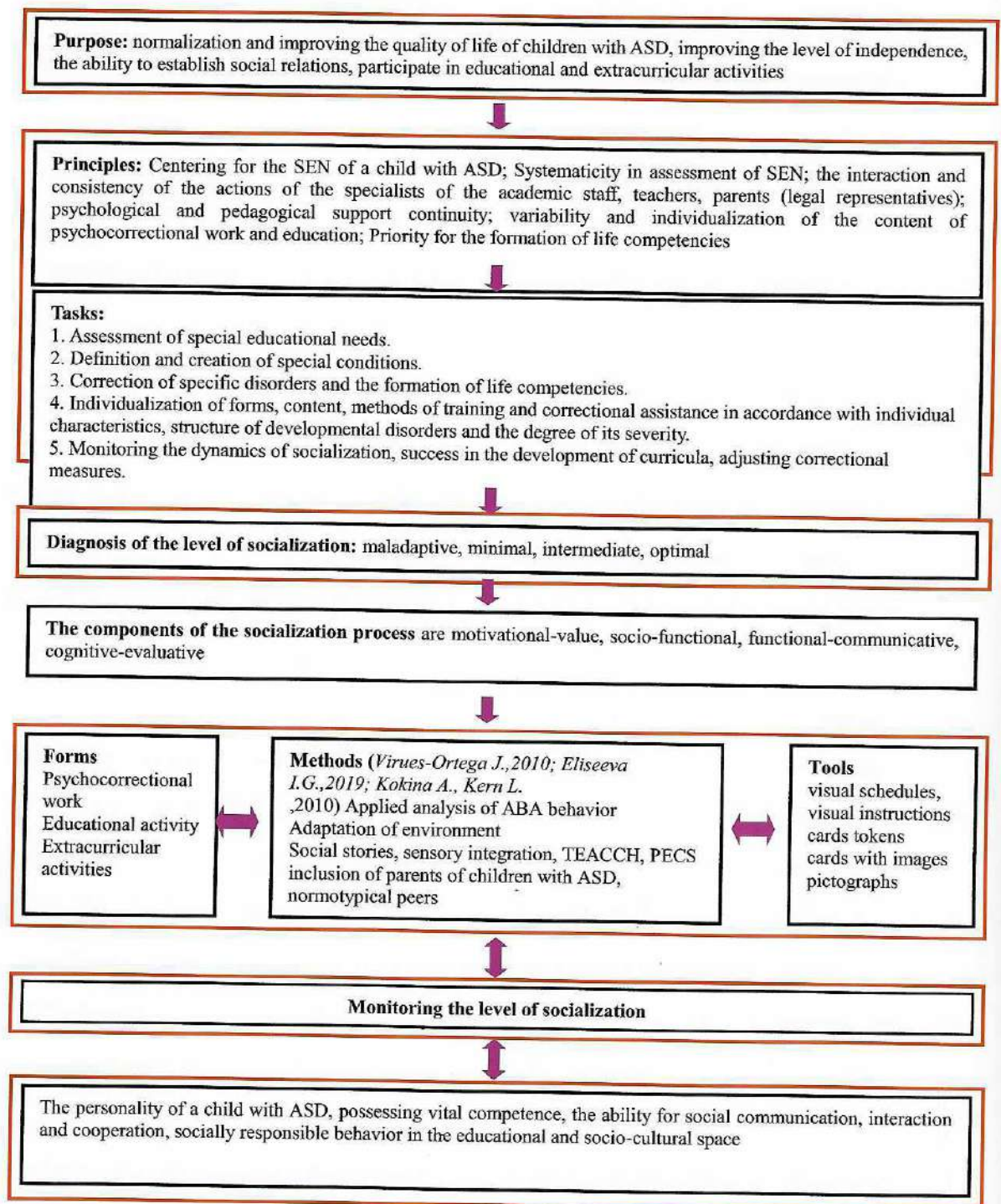


Figure 3. Model of socialization of children with ASD complicated by combined disorders in conditions of special and inclusive education

*Minimum level:* low motivation to learn, emerging facts of undesirable behavior, frequent rejection and non-compliance with class rules, superficial or

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formal attitude to communication situations, the beginning of the formation of gender and age identification, low level of memory development, thinking operations, verbal and non-verbal intelligence, lack of verbal speech, the beginning of the use of alternative types of communication, situational understanding of speech, the beginning of the formation of neatness and self-service skills.

*Intermediate level:* formation of motivation to learn, rare facts of undesirable behavior, mechanical fulfillment of norms of behavior in the classroom, stays in the classroom for quite a long time, absence of facts of autoaggression, aggression, auto-stimulation, interest in communication situations, formation of gender and age identification, average level of mechanical memory, the beginning of semantic memory formation, medium-low level of operations development thinking, the absence and (or) the beginning of the manifestation of verbal speech, possession of alternative communication skills, an average level of speech comprehension, developed skills of neatness and self-service.

*Optimal level:* average level of motivation to learn, absence of facts of undesirable behavior, partially conscious fulfillment of norms of behavior in the classroom, gender and age self-identification, sufficient level of development of mechanical and semantic memory, mastery of verbal speech or alternative means of communication, understanding speech, sustained interest in communication, formed skills of neatness, self-service.

The socialization of children with ASD complicated by combined disorders, is carried out in all forms of the educational process.

In general education schools, a special role in the social adaptation of children in this group is assigned to the teaching assistant, who accompanies the child from constant support throughout the school day to partial support for several lessons per week and to full independence in the educational process. The transition from one stage to another will depend on the growth of the child's independence, the

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formation of skills of accepted behavior in school, and the development of his potential.

In special schools, children with ASD complicated by combined disorders, receive training in special educational programs corresponding to the type of disorder, where psychologist and speech therapist provide assistance.

The most important areas of work are: correction of maladaptive behavior; formation of a stereotype of educational behavior, communication skills, social interaction skills, social orientation, ideas about oneself and one's social environment.

*Monitoring the dynamics of socialization of students with ASD complicated by combined disorders in special and secondary schools.* The content of monitoring will vary and depend on both the individual characteristics and stage of the child's socialization, as well as the place of his education.

*An effective component* of the Model is the personality of a child with ASD, who has vital competence, the ability to socialize, interact and collaborate, and socially responsible behavior in the educational and socio-cultural space.

**Conclusion.** All of the above components represent an open model that can be improved and changed depending on the conditions of use.

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