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## Modular Competence-Based Approach in the System of Continuing Education of Specialists Working with Children with ASD

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**Abstract.** The purpose of our study was to identify the strengths and weaknesses of the formed competencies of specialists working with children with ASD with a modular competence approach in the system of continuing education. The training of specialists working with children with ASD in the Republic of Tatarstan was conducted within the framework of a modular competence approach in the system of continuing education and a survey based on the results of this training. An online survey in Yandex form was used as a research method. It was attended by 104 specialists who completed advanced training in 3 additional education programs in 6 blocks of questions.

A survey of specialists working with children with ASD showed an uneven formation of competencies after completing training programs, which depends on the initial level and specialization of the education received, on the choice of a professional development program, on the desire to undergo training and put into practice the acquired knowledge about children with ASD. Weaknesses were found in all groups of respondents, especially in terms of formed skills in the diagnosis and application of technologies for accompanying children with ASD. Teachers and educators of educational organizations, even after point training, turned out to be less ready to interact with children with ASD than previously trained speech pathologists, speech therapists, psychologists due to the specifics of the nosological group. In the future, it is important to expand the sample of the study and the contingent for advanced training at the expense of teachers and educators of inclusive education and offer them training in all developed modules.

**Keywords:** preschool age, autism spectrum disorders (ASD), modular competence approach, continuing education system, training of specialists.

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Research area: Social Structure, Social Institutions and Processes.

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## Модульно-компетентностный подход в системе непрерывного образования специалистов, работающих с детьми с РАС

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**Аннотация.** Цель нашего исследования – определить сильные и слабые стороны сформированных компетенций специалистов, работающих с детьми с РАС при модульно-компетентностном подходе в системе непрерывного образования. Проведено обучение специалистов, работающих с детьми с РАС в Республике Татарстан в рамках модульно-компетентностного подхода в системе непрерывного образования и опрос по итогам этого обучения. В качестве метода исследования использован онлайн-опрос в Яндекс-форме. В нем участвовали 104 специалиста, прошедшие повышение квалификации по трем программам дополнительного образования в шести блоках вопросов.

Анкетирование специалистов, работающих с детьми с РАС, показало неравномерность сформированности компетенций после прохождения программ обучения, что зависит от первоначального уровня и специализации полученного образования, от выбора программы повышения квалификации, от желания проходить обучение и применять на практике полученные знания о детях с РАС. Слабые стороны обнаружены у всех групп респондентов, особенно в части сформированных умений по диагностике и применению технологий сопровождения детей с РАС. Педагоги и воспитатели образовательных организаций даже после точечного обучения оказались меньше готовы к взаимодействию с детьми с РАС, чем ранее подготовленные дефектологи, логопеды, психологи в силу специфики нозологической группы. В перспективе важно расширить выборку исследования и контингент на повышение квалификации за счет педагогов и воспитателей инклюзивного образования и предложить им пройти обучение по всем разработанным модулям.

**Ключевые слова:** дошкольный возраст, расстройства аутистического спектра (РАС), модульно-компетентностный подход, система непрерывного образования, подготовка специалистов.

Работа выполнена за счет гранта, предоставленного Академией наук Республики Татарстан научным и научно-педагогическим работникам обособленных структурных подразделений Академии наук Республики Татарстан с целью их стимулирования к защите докторских диссертаций и выполнению научно-исследовательских работ.

Научная специальность: 5.4.4. Социальная структура, социальные институты и процессы.

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## Introduction

In the system of continuing education, it is relevant today to study the training of specialists working with children with ASD in the aspect of a modular competence approach.

In general terms, the concept of the development of education for children with disabilities in the Russian Federation indicates changes in the training of specialists. The directions that determine the systemic changes in training: the stage of training; real practice-oriented training, correlated by the competencies formed with each level of education and stages of professional work; improved bases for differentiation of specialties and identification of the invariant part of the training of specialists in defectology; the formation of professional thinking; the use of “modern tools for assessing the formation of professional competencies” (Linker, Yusupova, 2019).

The conceptual provisions are aimed at: defining and scientifically substantiating the guidelines of modern pedagogical education, which meets the educational needs of pupils, including those with ASD at different levels of the education system in conditions of diversification of educational routes. The guidelines should: show the acceptance of “otherness” as experience-based values; direct the educational process to create vital competencies for successful socialization; to help a specialist clearly understand the nature of the occurrence and qualitative characteristics of special educational needs in children (basis: the unity of the laws of the child’s mental development) (Lobanov, 2022).

Definitely, a specialist should trace the relationship between the nature of a special educational need, its manifestation in organized activities and the special conditions created to satisfy this need. In other words, a specialist must understand the learning process from the point

of view of the system, and the relationship of the elements here is causal (Mazilov, Kostigin, 2022). As a result, it is necessary to change the training of specialists. It becomes necessary to psychologize the training of specialists and will be based on the formation of meta-subject competencies that will allow you to understand the laws and patterns of mental development of a child, as well as their course, factors affecting the formation of personality qualities at age stages; ensuring the psychological safety of participants in the educational process. Equally important is the introduction of changes in the methodological training of teachers. Methodological training forms competencies that allow a specialist to use and see various opportunities for adaptation, transformation, modification of techniques and methods of work, taking into account the special educational needs of children.

A scientific justification is needed to determine the content of professional activity and the training of new qualified personnel to accompany preschoolers with ASD. Support is a special condition for meeting their educational needs. Modern approaches to the differential diagnosis of ASD were noted by E. A. Chereneva, O. L. Belyaeva, I. Ya. Stoyanova (2022). U. Frith, F. Happé, (1994), M. V. Lauritsen (2013), studying autism spectrum disorders, offered to train specialists. Y. Tachibana and others (2017) propose a systematic review and meta-analysis of comprehensive interventions for preschool children with ASD for detailed study.

While ensuring scientific methodology and integration into the national education system, psychological and pedagogical support of inclusive education at different levels of organization, classes and groups, a child with disabilities and his family is required. To do this, teachers, educational psychologists, and social educators should be trained (Ugryumova, 2018). And new organizational approaches in

this training are considered as the joint study of a number of academic disciplines, the creation of projects that reflect the peculiarities of practical training and professional activity of each (Ovsyannikova et al., 2022)

The relevance of the study is determined by the need:

- professional training of teachers and specialists of the integrated support system for children with ASD in special and inclusive education, who possess not only deep theoretical knowledge on the problem of ASD, but also possess professional competencies for applying the knowledge gained in practice: the ability to apply modern technologies with proven effectiveness in diagnosis, forecasting ways to solve correctional problems and support children with ASD as part of his individual development route; willingness to work as a team and accompany families with children with ASD;

- creating such learning conditions, the implementation of which will form the necessary competencies for teachers to work with children diagnosed with autism, both within the framework of inclusion and within the framework of special education;

- additional development of competencies in professional standards for the training of teachers in the field of practice with ASD, since it was revealed that basic pedagogical education requires additional training and special training, whereas when meeting a child with ASD in practice, the disintegration of a young teacher in an inclusive educational context is revealed.

### Theoretical framework

Many works of Russian and foreign scientists are devoted to the research of the problem of professional competence of modern teachers.

H. Able et al. (2015). They argue that the support of teachers and students is necessary for the full integration of students with ASD. R. Corkum et al. (2014) draw attention to the needs for professional development of teachers working with children with ASD in an inclusive school. L. Petersson-Bloom (2021) also writes about professional development to

raise awareness among preschool professionals about autistic disorders.

J.E. Hart Barnett & K. O'Shaughnessy (2015) advocate for increased collaboration between all specialists working with children on the autism spectrum. J.X. Teo, B.T. Lau & P. Then (2022) conduct a review and analysis of teachers' awareness for their further education. K.R. Wilson and & R.J. Landa (2019) study barriers to the introduction of new educational programs for preschoolers with ASD.

M. A. Burlakova and N.N. Fedorova (2019) in their monograph devoted one of the points to the formation of professional competence of teachers who work with ASD in an inclusive school. They identified criteria for the level of professional competence, which are formed today most often in additional education.

The assessment is conducted by levels:

1. knowledge of modern pedagogical technologies in the field of work with children of ASD and their application in professional activities;

2. willingness to solve professional tasks when working with children of ASD;

3. The ability to control their own activities when working with children of ASD in accordance with accepted rules and regulations (Burlakova, 2019).

It is important to note that their professional competence is aimed at an individual approach to autistic children.

E.A. Chereneva and E.A. Volodenkova (2016) presented an interdepartmental model for organizing a system of assistance to children with ASD (Krasnoyarsk Territory) and described the technologies of interdepartmental cooperation between domestic and foreign scientists and practitioners in the development of children of this category. They showed experience in the development of parental initiatives with children with ASD, training professional staff to work with them. According to the presented modern studies, it is observed that specialists regularly encounter psychological barriers caused by the fragmented image of a child with ASD, negative beliefs and attitudes to work with such dysontogenesis (Menshikova, Pogorelov, 2017). A specialist should have a psychological readiness, working with children with

ASD, to creatively, creatively and with interest approach overcoming the consequences in the correctional work of ASD (Lobanov, 2022).

In the article by N.A. Platokhin, N.N. Abashina (2018), based on a study conducted in which 43 educators participated, results were obtained on their lack of competence in providing qualified assistance to children with ASD in conditions of inclusion.

The researchers came to the decision to develop a program to improve the professional competence of teachers "Features of educational work with children diagnosed with early childhood autism". The program expands the ideas of teachers of preschool educational organizations about the psychological and pedagogical characteristics of children diagnosed with RDA, develops teachers' skills to adjust and plan educational tasks taking into account the result of monitoring the individual characteristics of children with autism, helps teachers master the technologies and content of organizing educational work, as well as accompanying children diagnosed with ASD, to master the basic knowledge of the organization of a correctional and developmental spatial environment for the correction of the development of children with autism in the context of educational inclusion.

Each of the specialists who organizes the education of children with ASD (head teacher, methodologist, coordinator for inclusive education of students with disabilities, supervisor, curator, tutor, teacher-defectologist, specialists in psychological and pedagogical direction, regular class teacher and subject teacher) has a certain set of competencies.

A.V. Khaustov (2020) highlights the key specialized competencies of specialists that allow effective work with children of ASD. These are the following knowledge, skills, actions:

**Knowledge:** about the features and special educational needs of children with ASD; about modern diagnostic assessment tools for identifying signs of ASD and assessing the level of skill formation; about modern approaches, methods and programs of work with an evidence base; about ways to overcome undesirable behavior.

**Skills:** to organize special conditions for the education of a child with ASD; to evaluate with the use of modern diagnostic tools the lev-

el of development and characteristics of a child with ASD; to develop an individual adapted educational program (AOP), an individual development program (IAP); to make a choice and apply methods that correspond to the level of development and individual characteristics of a child with ASD; the use of modern methods in practice to overcome undesirable behavior; to measure the effectiveness of methods based on an assessment of the dynamics of a child's development.

**Actions:** selection of functional work goals that correspond to the level of development to reduce behavioral problems and promote learning of subsequent skills; to formulate the purpose of the work (concreteness, observability, measurability, achievability); selection of stimulating and didactic materials, as well as their use with the provision of clear instructions to prompt or reinforce the emerging skill in the child; the use of proactive or reactive strategies for preventing or stopping unwanted behavior; to collect data to assess the dynamics of a child's development and verify the effectiveness of the developed program for him (Dovbnya et al., 2018).

I.A. Nigmatullina, V. V., Vasina, Yu.O. Mukhamedshina (2021) when developing a structural and functional model of comprehensive support for children with ASD, they laid the foundation for training specialists in the system of continuing education. I.A. Nigmatullina, V.A. Stepashkina, L.D. Pavlova (2023) as a result of their research (60 teachers working with ASD in groups of compensating orientation of the pre-school Kazan), organized to determine the resources of teachers' psychological readiness to work with children with ASD in pre-school settings, received the following: teachers have a high level of knowledge about modern methods and techniques of diagnosis, correction, training and development. They also possess the skills to develop and implement individual correctional programs in the organization of special conditions. However, it was revealed that there is a lack of in-depth practical knowledge, skills and abilities to work with children with ASD. Teachers have incomplete psychological and pedagogical support. As a result, the following recommendations were offered to teachers working



with ASD: to create a free learning platform for the continuous educational process of teachers; to create a system of psychological support for teachers; to expand the training programs for students of the "Preschool Education" direction; to develop advanced training and professional retraining courses for accompanying and teaching children with ASD (Khitryuk, Sergeeva, 2019).

The **problem of research** is defined, what are the competencies of various specialists working with children with ASD, which are formed with a modular competence approach in the system of continuing education.

The purpose of the study is to identify the strengths and weaknesses of the formed competencies of specialists working with children with ASD, with a modular competence approach in the system of continuing education.

### Research objectives

1. To identify 10 core competencies from Professional Standards for speech therapy teachers (speech pathologists), for teachers of preschool educational institutions and school teachers, for psychologists; 2. To compare the strengths and weaknesses of the formed competencies of specialists working with children with ASD, with a modular competence approach in the system of continuing education after passing training according to the relevant programs.

The initial hypothesis was that with a modular competence approach, a sufficient level of competence development of various specialists working with children with ASD can be formed in the system of continuing education.

Therefore, specialists working with children with ASD in the Republic of Tatarstan were trained within the framework of a modular competence approach in the system of continuing education and a survey based on the results of this training.

### Research methods and methodology

An online survey of teachers in Yandex form was used as a research method (<https://forms.yandex.ru/u/646a594669387222f5a85da0/>) 104 specialists who completed additional professional education courses participated in it.

The research data were obtained on the basis of 17 questions consisting of two parts:

1. The first part (1–7) of the questions contained general information: place of work, specialty, direction of the training course.

2. The second part contained 10 questions for each respondent aimed at assessing the quality and content of knowledge, skills, and skills acquired as a result of completing additional vocational education courses and their compliance with the labor functions of the professional standard.

Each question contained three 4 possible answers, where 0 points – competencies were not formed; 1 point – partially formed; 2 points – sufficiently formed;

3 – fully formed.

The survey was conducted among students in 3 areas of advanced training in 6 blocks of questions:

1. Organization of special conditions of the educational environment and activities for the development, adjustment, implementation of adapted educational programs (including individual ones) for students with ASD at different levels of education (1 block – teacher-defectologist, speech therapist; 4 block – school teacher, kindergarten teacher).

2. Pedagogical support for students with ASD on issues of meeting special educational needs, the use of technologies, methods and techniques for the prevention and correction of developmental disorders (block 2 – teacher-defectologist, speech therapist; block 5 – school teacher, kindergarten teacher).

3. Psychological and pedagogical assistance to students with ASD in their social adaptation and rehabilitation (block 3 – teacher-defectologist, speech therapist; block 6 – educational psychologist, psychologist, medical psychologist).

### Results

An appropriate training program has been selected for each specialty, according to which the second part of the questions is built.

Thus, 2 areas of study are provided for teachers of preschool and general education institutions: on creating the necessary conditions for the educational environment and

activities for the development, adjustment, implementation of individual adapted educational programs for children with ASD at different levels of education; on pedagogical support for children with ASD in the application and implementation of technologies, methods, techniques, in the implementation of special educational needs, prevention, correction of developmental disorders.

All three directions are intended for teachers of speech pathologists and speech therapists: on creating the necessary conditions for the educational environment and activities for the development, adjustment, implementation of individual AOP for children with ASD at different levels of education; on pedagogical support for children with ASD in the application and implementation of technologies, methods, techniques, in the implementation of educational (special) needs, prevention correction of disorders; on psychological and pedagogical assistance to children with ASD in their social adaptation and rehabilitation.

For a practicing psychologist, an educational psychologist, a medical psychologist, there are training directions on psychological and pedagogical assistance to children with ASD in their social adaptation and rehabilitation.

Let's describe the average scores of the results of training under the program 1 of speech therapy teachers and speech pathologists.

The average score and questions of the second block of the program on the creation of the necessary conditions for the educational environment and activities for the development, adjustment, implementation of individual AOP for children with ASD at different levels of education for speech therapists and speech pathologists:

1. Evaluate the formation of skills to provide for age, psychophysical, and individual characteristics of preschoolers with ASD in the process of educational activity – 2.4 b.

2. Evaluate the formation of skills to apply new technologies, methods, techniques in the implementation of educational and educational activities of children with ASD – 2.4 B.

3. Evaluate the formation of skills to develop and implement adapted and correctional programs for working with children with ASD – 2.4 B.

4. Evaluate the formation of skills to organize and maintain communication of children with ASD with the society of people – 2.4 b.

5. Assess the formation of skills in the ways of interacting with parents of children with ASD – 2.4 b.

6. Evaluate the formation of skills in the ways of interacting with specialists accompanied by children with ASD in the framework of the implementation of adapted and correctional programs for working with children with ASD, obtained as a result of training on the course – 2.4 b.

7. Evaluate the formation of skills to apply technology to organize different types of activities with children with ASD – 2.4 B.

8. Evaluate the formation of the ability to use quality assessment tools in order to receive feedback from your own pedagogical actions and plan further individual work with children with ASD within the framework of the implementation of adapted and correctional programs for working with children with ASD, obtained as a result of training on the course – 2.4 b.

9. Assess the formation of skills to adapt materials, technologies, tools, educational resources, including digital ones, to the abilities of children with ASD – 2.4 B.

10. Assess how much willingness has been formed to apply the acquired knowledge, skills and abilities in practical activities – 2.4 b.

Let's describe the average scores of the results of training under the program of 2 speech therapy teachers and speech pathologists.

The average score and questions of the second block of the program "Pedagogical support for children with ASD in the application and implementation of technologies, methods, techniques, in meeting special educational needs, prevention, correction of developmental disorders" for teachers of speech therapists and teachers of speech pathologists:

1. Evaluate the formation of skills to apply new means of psychological and pedagogical research, methods, techniques in working with children with ASD, obtained during the course – 2.2 b.

2. Evaluate the formation of skills to adapt the stimulus material to the capabilities of children with ASD – 2.4 B.

3. Evaluate the formation of skills to conduct psychological and pedagogical research with children with ASD – 2.2 B.

4. Evaluate the formation of understanding skills of documentation prepared by different departments (health, education, social protection, law enforcement agencies) – 2.3 b.

5. Evaluate the formation of understanding skills and analysis of psychological and pedagogical examination with children with ASD, taking into account the data of a comprehensive study – 2.3 b.

6. Assess the formation of skills to apply technologies to prevent the progression of ASD, propaedeutics of behavioral disorders – 2.2 b.

7. Assess the formation of skills to work in an interdisciplinary team with different specialists on issues of support for children with ASD and their families – 2.4 b.

8. Evaluate the formation of skills in using educational resources (including digital, remote) in counseling parents of children with ASD and specialists – 2 b.

9. Evaluate the formation of skills to follow the legal, moral and ethical standards of professional ethics of a teacher-defectologist – 2.4 b.

10. Assess how much willingness has been formed to apply the acquired knowledge, skills and abilities in practical activities – 2.3 b.

Let's describe the average scores of the results of training under the program of 3 speech therapy teachers and speech pathologists.

The average score and questions of the second block of the program "Psychological and pedagogical assistance to children with ASD in their social adaptation and rehabilitation" for teachers of speech therapists and teachers of speech pathologists:

1. Evaluate the formation of skills to formulate tasks, determine the content, select the necessary methods and means of rehabilitation (habilitation) for working with children and adults with ASD – 2.5 b.

2. Evaluate the formation of skills to select the necessary methods and techniques for working with families of children with ASD in order to include parents and their family members in psychological and pedagogical rehabilitation (habilitation), socialization, professional orientation – 2.1 b.

3. Assess the formation of skills to apply motivation formation technologies in children and adults with ASD to the competencies necessary for social adaptation – 2.5 b.

4. Evaluate the formation of skills to apply tools, methods, and techniques to work with undesirable behaviors of children and adults with ASD – 2.3 b.

5. Evaluate the formation of skills in planning and organizing the interaction of children and adults with ASD with other people, taking into account their individual characteristics – 2.6 b.

6. Assess the formation of skills to maintain the necessary documentation (including electronic format), for the implementation of psychological and pedagogical assistance to children and adults with ASD – 2.5 b.

7. Assess the formation of skills to use the necessary knowledge of the Legislation of the Russian Federation on the rights of the child, children with disabilities, children with disabilities, children with ASD, on the rights of the disabled – 2.5 b.

8. Evaluate the formation of skills to create the necessary conditions for psychological and pedagogical rehabilitation (habilitation) of children and adults with ASD, taking into account their individual characteristics and development options – 2.3 b.

9. Evaluate the formation of skills to use the basics of communication and team interaction in psychological and pedagogical assistance to children and adults with ASD – 2.3 b.

10. Assess how much willingness has been formed to apply the acquired knowledge, skills and abilities in practical activities – 2.5 b.

Weaknesses discovered:

- the formation of skills in the use of digital educational resources, distance learning technologies, e-learning in counseling parents of students with autism spectrum disorders and specialists;

- the formation of skills in the application of new methods, techniques and means of psychological and pedagogical examination of students with ASD, obtained as a result of training on the course;

- the formation of skills to conduct a psychological and pedagogical examination of students with ASD;



- the formation of skills to apply technologies to prevent the progression of autism spectrum disorders, propaedeutics of behavioral disorders;

- to use methods and techniques for involving parents, family members of children and adults with ASD in socialization activities, psychological and pedagogical rehabilitation (habilitation), and professional orientation.

Let's describe the average scores of the results of training according to the program of 1 teachers.

The average score and questions of the second block of the program "Creating the necessary conditions for the educational environment and activities for the development, adjustment, implementation of individual adapted educational programs for children with ASD at different levels of education" for teachers of preschool educational institutions and school teachers:

1. Evaluate the formation of skills to provide for age, psychophysical, and individual characteristics of children with ASD in the process of educational activity – 2 b.

2. Evaluate the formation of skills to apply new technologies, methods, techniques in the implementation of educational and educational activities of children with ASD – 2.05 b.

3. Evaluate the formation of skills to develop and implement adapted and correctional programs for working with children with ASD – 2.3 B.

4. Evaluate the formation of skills to organize and maintain communication of children with ASD with the society of people – 2.25 b.

5. Evaluate the formation of skills in the ways of interacting with parents of children with ASD – 2.1 b.

6. Assess the formation of skills in how to interact with specialists in accompanying children with ASD within the framework of the implementation of adapted and correctional programs for working with children with ASD, obtained as a result of training on the course – 2.3 b.

7. Evaluate the formation of skills to apply technologies for organizing various types of activities with children with ASD – 2.2 B.

8. Evaluate the formation of the ability to use quality assessment tools in order to receive

feedback from your own pedagogical actions and plan further individual work with children with ASD within the framework of the implementation of adapted and correctional programs for working with children with ASD, obtained as a result of training on the course – 2.4 b.

9. Assess the formation of skills to adapt materials, technologies, tools, educational resources, including digital ones, to the abilities of children with ASD 2.3

10. Assess how much willingness has been formed to apply the acquired knowledge, skills and abilities in practical activities – 2.35 b.

Let's describe the average scores of learning outcomes according to the teachers' program.

The average score and questions of the second block of the program "Pedagogical support for children with ASD in the application and implementation of technologies, methods, techniques, in the implementation of special educational needs, prevention, correction of developmental disorders" for teachers of preschool educational institutions and school teachers:

1. Assess the formation of skills to use methods of developing and implementing adapted and correctional educational programs for children with ASD – 2.12 B.

2. Evaluate the formation of skills to develop and implement adapted educational programs, correctional work programs with children with ASD – 2.04 b.

3. Evaluate the formation of skills to apply new methods of organizing a developing educational environment for educational activities in the process of implementing AOP, correctional work programs with children with ASD – 2.12 B.

4. Evaluate the formation of skills to organize a developing educational environment for educational activities in the process of implementing AOP, correctional work programs with children with ASD – 2.16 B.

5. Evaluate the formation of skills to apply new ways of interacting with parents (legal representatives) of children with ASD in the process of implementing adapted educational programs, correctional work programs with children with ASD RAS – 2.04 b.

6. Assess the formation of skills to interact with parents (legal representatives) of children with ASD in the process of implementing adapted educational programs, correctional work programs with children with ASD – 2.12 b.

7. Assess the formation of skills to apply new ways of interacting with specialists accompanying children with ASD (if any) in the process of implementing AOP, correctional work programs with children with ASD – 2.12 b.

8. Evaluate the formation of skills to interact with specialists accompanying children with ASD (if any) in the process of implementing AOP, correctional work programs with children with ASD – 2.24 b.

9. Assess the formation of skills to apply new technologies for organizing various types of activities with children with ASD in the process of implementing AOP, correctional work programs with children with ASD – 2.04 b.

10. Assess how much willingness has been formed to apply the acquired knowledge, skills and abilities in practical activities – 2.12 b.

Weaknesses discovered:

- the formation of skills to apply new and effective technologies, methods and techniques of organizing education, upbringing and support of students with ASD;
- the formation of skills to take into account the age, psychophysical and individual characteristics of students with ASD;
- formation of skills in the ways of interacting with parents of children with ASD;
- the formation of the ability to use quality assessment tools in order to receive feedback from their own pedagogical actions and plan further individual work with children with ASD;
- the formation of skills to develop and implement adapted educational programs, correctional work programs with students with ASD,
- the formation of skills to apply new methods of organizing a developing educational environment for the implementation of educational activities;
- the formation of skills to apply new technologies for organizing different types of activities with students;

– willingness to apply the acquired knowledge, skills and abilities in practical activities.

Let's describe the average scores of the results of the training program 3 from psychologists.

Questions of the second block of the program "Psychological and pedagogical assistance to children with ASD in their social adaptation and rehabilitation" for educational psychologists, psychologists, medical psychologists.

1. Evaluate the formation of skills to analyze and describe the development process, the correspondence of the state of cognitive functions, the emotional and personal sphere to age standards, psychological and social functioning in children with ASD – 2.3 b.

2. Evaluate the formation of skills to carry out rehabilitation and correctional activities in individual and group form with children with ASD – 2.6 b.

3. Evaluate the formation of knowledge, skills and abilities to carry out clinical and psychological support for children with ASD at all stages of the treatment and (or) rehabilitation process obtained as a result of training on the course – 2.3 b.

4. Evaluate the formation of knowledge, skills and awareness about the specifics of providing clinical and psychological care for developmental disorders in children with ASD – 2.6 B.

5. Evaluate the formation of knowledge and skills about providing parents (legal representatives) with information about children with ASD, concerning the nature of psychological disorders, goals, methods of rehabilitation / corrective action and expected results obtained as a result of training on the course – 2.3 b.

6. Evaluate the formation of knowledge, skills and psychological diagnostics of the characteristics of children with ASD, obtained as a result of studying at the course – 2.3 b.

7. Evaluate the formation of skills and application skills modern technologies when working with children of races obtained as a result of studying at the course – 2.6 b.

8. Evaluate the formation of knowledge and skills about methods and technologies of

psychological support for children with ASD as a result of training on the course – 2 b.

9. Evaluate the formation of readiness to apply knowledge, skills and abilities acquired during training in the organization of an inclusive educational space for children and adolescents with ASD – 2.6 b.

10. As a result of studying at the course, can you formulate briefly and in a free form from 3 recommendations for the diagnosis, treatment and rehabilitation of children and adolescents with ASD – 2.3 B.

Weaknesses were found:

- the formation of skills to analyze and describe the process of development, the correspondence of the state of cognitive functions, the emotional and personal sphere to age standards, psychological and social functioning in children with ASD;

- the formation of knowledge, skills and abilities to provide clinical and psychological support for children with ASD at all stages of the treatment and (or) rehabilitation process;

- the formation of knowledge and skills about providing parents (legal representatives) with information about children with ASD, concerning the nature of psychological disorders, goals, methods of rehabilitation / corrective action and expected results;

- formation of knowledge, skills and psychological diagnostics skills of children with ASD;

- formation of knowledge and skills about methods and technologies of psychological support for children with ASD.

Weaknesses were found in all groups of respondents, especially in terms of formed skills in the diagnosis and application of technologies for accompanying children with ASD. The lowest results were found among teachers of schools and kindergartens who do not have special education to work with children with ASD.

We have obtained comparative indicators for the formed competencies of different groups of students of the courses. (0b. – not formed, 1b. – partially formed, 2b. – sufficiently formed, 3b. – fully formed).

Based on the results of the study, within the framework of the modular competence

approach, a Model of additional education for specialists of the integrated support system for children with ASD was built, which consists of advanced training courses (72 hours) and 4 modules of professional retraining courses (330 hours), which makes it possible to purposefully strengthen weaknesses and form missing professional competencies for specialists working with children with ASD.

The scheme of the modular competence approach in the system of continuing education of specialists working with children with ASD is constructed.

### Discussion of the results

The issue of comparing different subgroups of specialists with different names who study not according to the programs of the same name is debatable, but the modular competence approach in the system of continuing education in the training of specialists allows comparing the results of the development of competencies in different blocks of modules, which is consistent with the research of V. In Khitryuk, M. G. Sergeeva (2019).

Initially, more even results were expected based on the results of the study among all groups of specialists working with children with ASD, but school teachers and kindergarten teachers in the general education system were not quite ready to take advanced training courses on pedagogical support for children with ASD in the application and implementation of technologies, methods, techniques, and in the implementation of special educational needs, prevention, correction of developmental disorders and to create the necessary conditions for the educational environment and activities for the development, correction, implementation of individual adapted educational programs for children with ASD at different levels of education.

The limitations of the study were that not all teachers were willing to start studying the course, not all want to work with children with ASD after completing the course, not all have education and motivation to work in an inclusive space. What correlates with the research of other scientists (p. In Gaichenko, 2020).

The results of the study can be used for more precise formulations of the topics of advanced training courses, depending on the requests of employees of specific organizations. In practical terms, for the future, it is important to take into account motivational points for teaching interaction with children with ASD and conduct entrance testing, and not only based on learning outcomes.

### Conclusion

A survey of specialists working with children with ASD showed an uneven formation of competencies after completing training programs, which depends on the initial level and

specialization of the education received, on the choice of a professional development program, on the desire to undergo training and put into practice the knowledge gained about children with disabilities. Teachers and educators of general education kindergartens and schools, even after point training, turned out to be less ready to interact with children with ASD than previously trained speech pathologists, speech therapists, psychologists due to the specifics of the nosological group. In the future, it is important to expand the study sample and the contingent for professional development at the expense of teachers and educators of inclusive education.

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