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Universal learning activities as indicators of the safe behaviour of student with autism spectrum disorder

This article focuses on the formation of "life competence" as an integral and most important part of general education, identified in the Federal State Educational Standard for Basic General Education (FSES BGE) for students with health limitations (HL). The standard pays great attention to the formation of universal learning activities and the special educational needs of children with ASD. Particularly highlighted are the special educational needs of children with ASD and their specific needs, for example, developing of self-service and life supporting skills, social skills, verbal and non-verbal communication, social development, developing of children's attention to the manifestations of the nearest adults and their relationships. Development of the child's life skills and social adaptation takes place depending on the level of the formation of universal educational activities. During the complex diagnostics, which is carried out together with the class teacher and supporting specialists, the level of formation of universal educational activities of first-class students with autism spectrum disorder was found out. The diagnostic results made it possible to evaluate the effectiveness of correctional and developmental work, to determine individual planned results and further directions of work on the formation of universal educational actions and safe behavior, the development of life competencies.

Key words: Federal State Educational Standard for Basic General Education (FSES BGE) for students with health limitations (HL), universal learning activities (ULA), autism spectrum disorder (ASD), life competence, educative process, safe activities, corrective-developing action

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Introduction

Autism spectrum disorder is an inhomogeneous group of states, connected with the development of the excitatory system and characterized by disturbances in the process of social interaction and communication (using verbal and nonverbal language), limited and repetitive patterns of behaviour and activity [9]. According to the World Health Organization (1 out of 160 children, 2017), the number of diagnosed cases of children with ASD is increasing.

The causes of the ASD uprising make a serious impact on the nature and dynamics of the child's development, they are the condition, that determines the possible difficulties and certainly has an impact on social development. Despite this, regardless of the etiology, the degree of mental development disorder is extremely heterogeneous. Student can be indifferent to what is happening, they can use no communication, but use clichés. But, along with this, they can have a rich vocabulary and a detailed speech, that is not correlated with age [10].

The inclusion of children with ASD in the educational process regulates the FSES BGE for students with health limitations focuses on the formation of the "life competence" of the child with ASD as an integral and one of the most important part of general education.

The standard pays great attention to the formation of universal learning activities (ULA – methods of action to ensure the independent assimilation of new knowledge) and the special educational needs of children with ASD [4]. Particularly highlighted are specific needs, for example, the development of self-care and life-support skills, social and everyday skills, verbal and non-verbal communication, social development, the development of children's attention to the manifestations of close adults, their relationships [13].

Children with autism spectrum disorders are characterized by impaired communication and interaction with peers and adults, lack of common interests with other children, ability to organize their own activities and typical repetitive, stereotypical speech. They, in most cases, demonstrate the willful, often risky behavior (they do not notice and do not see threats). Based on this, the relevance of the study is due to the need to form universal educational actions for safe behavior and adaptation of children with ASD in society.

Independence of a child with an autism spectrum disorder is possible only if you follow the rules of safe behavior, which we will consider as behavior that does not harm yourself and others. The indicator of this behavior is the level of formation of the ULA and the development of life competencies.

Life competencies are defined as: skills, knowledge and skills, methods of their use, necessary for the maximum possible independent and independent functioning. For some children with ASD, it is self dressing or eating. For others – the ability to use public transport, independently cross the road or resolve conflicts. In the case of the transition of the road, without the formed life competencies, the child may face the most important decision-making skills in a non-standard, unworked situation for him, in the event of a broken traffic light. The situation may be aggravated if the child does not use the behavior pattern of another person or is unable to say anything due to the lack of communication and communication skills [8].

As a consequence, the basic principle in teaching the safe behavior of children with ASD is the formation of universal educational activities and the development of life competencies.

Separately, it is possible to identify a group of life competencies necessary for integration into the school environment in the learning process [8]. These include: the implementation of instructions, including the front, the observance of the norms and rules of school behavior, the ability to independently carry out the task to the end, to achieve results, the generalization of skills. Therefore, we can say, that there is a development of the child's life skills and social adaptation, depending on the level of the formation of universal learning activities among students with ASD.

In domestic science there is a practical experience in the formation of life competencies in children, using the following methods: visual support, social history, video modeling, generalization of skills [8].

Scientific novelty of the research is conditioned to the consideration of the level of formation of universal learning actions as an indicator of the safe behavior of students with autism spectrum disorder in the process of formation of life competencies. Through the method of dynamic observation of students with ASD on the formation of ULA (see Table 1).

Purpose of research: examination of life competence of autism spectrum disorder students as an indicator of safe behavior.

The research was conducted on the basis of the Municipal Autonomous Educational Institution "Secondary School No 60" in Tyumen, which is an inclusive educational for autistic children and has been operating in the framework of the "Open Hearts" project since 2017.

Materials and methods

To assess the level of formation of the universal learning activities as an indicator of the safe behavior of children with ASD, they used dynamic observation of learners with ASD to form a ULA where personal, communicative, regulatory and cognitive universal learning activities are recorded [4]. These results allow to present the dynamics of the child's holistic development in order to track the presence or absence of changes in individual skills.

Diagnostics of the level of formation of universal educational activities aimed at the formation of safe behavior included the following skills:

- following the norms and rules of social behaviour;
- independent behaviour;
- mastering the skills of adaptation to changes;
- skill to orientate oneself in classroom space, in school space;
- ability to achieve a result;
- transition of knowledge, skills and experiences;
- skills of cooperation with adults and same-age peers;
- using communicative means;
- skill to carry on a dialogue and to ask questions;
- emotional understanding and empathy;
- skill to organize his/her own activity [4].

The dynamic observation for assessing the level of the universal learning activities (ULA) maturity

Table 1**Dynamic observation for assessing the level of the universal learning activities maturity**

Universal learning activities (personal, communicative, regulative, cognitive)	points
1. Following the norms and rules of social behaviour (school, public spaces)	
Child follows the norms and rules of social behaviour both at school and in public spaces at the level, that is expected for his/her same-age peers with typical development	4
Child follows the norms and rules of social behaviour both at school. Child occasionally needs shallow support from adults. In some unknown situation child is able to orient oneself at a behaviour pattern of another man	3
In unstructured situation (pause, lunch, unexpected change of classroom or teacher) child needs control of an adult	2
Child follows the school norms and rules of social behaviour only under the constant control of an adult	1
Child does not follow the majority of the rules both at school and in public spaces even under the constant control of an adult	0
2. Independent behaviour (degree of involvement of adult, tutor)	
Child is able to act independently at the level, that is expected for his/her same-age peers with typical development	4
Child is able to act independently. Support of an adult is needed in new (which exactly?), unknown situations	3
Child needs assistance of a tutor only in some situations (during the study of new material) and during some classes (mathematics)	2
Child needs constant presence of a tutor during all the lessons and during all the scheduled moments, but child is able to perform some activities independently (what exactly?)	1
Child needs constant presence and help of a tutor (the highest possible level of tutor's participation)	0
3. Mastering the primary skills of adaptation to changes	
Child easily adapts to changes in a class, at school (schedule, place in a classroom) at the level, that is expected for his/her same-age peers with typical development	4
Child demonstrates negative response (which exactly?) to concrete singular changes (which exactly?)	3
Child sometimes demonstrates negative response (which exactly?) to changes (which exactly?), calms down easily	2
Child intensely (how exactly?) responds even to small in importance (which exactly?) changes, but calms down easily	1
Child intensely (how exactly?) responds even to small in importance (which exactly?) changes in a class and at school, calms down hardly	0
4. Skill to orientate oneself in classroom space, in school space	
Child orientates singly in classroom space, in school space	4
Child orientates singly in classroom space, is able to find the needed room in a school building in the majority of cases	3
Child orientates in classroom space. Child needs help from an adult moving in the school building, sometimes uses visual prompts	2
Child orientates in classroom space using visual prompts	1
Child does not orientate in classroom space, in school space	0
5. Ability to achieve a result	
Child makes efforts to achieve a result, tries hard, achieves a result at the level, that is expected for his/her same-age peers with typical development	4
Child immediately seeks an adult's assistance, if he/she needs to make efforts to achieve a result and meets difficulties, child does not make any attempts to achieve a result singly	3
Child protests and refuses to do the tasks, if he/she needs to make efforts to achieve a result and meets difficulties	2
Child normally starts to do the task, but he/she stops the activity, if he/she needs to make any efforts to achieve a result and meets difficulties	1
Child does not start to do the task, if it seems hard for him/her, and he/she does not ask for help	0

6. Transition (generalization) of knowledge, skills and experiences	
Child uses learned knowledge and formed skills in new situations at the level, that is expected for his/her same-age peers with typical development, child does not need any special training for that	4
Child is usually able to transit knowledge and skills into the similar environment, but sometimes needs special training for that	3
Child is able to transit some singular learned knowledge and formed skills into the similar situation without special training, but he normally needs such a training	2
Child needs special training in order to transit well-learned knowledge and worked out skills into the similar training situation	1
Child does not use formed skills and learned knowledge in new situations	0
7. Skills of cooperation with adults and same-age peers	
Child plans joint events and participates in joint events (joint game, competition) together with the others at the level, that is expected for his/her same-age peers with typical development	4
Child agrees with the others' suggestions during the planning of joint activities, but sometimes he/she starts to act without focusing on the partners	3
Child gets his/her way, does not take into account interests and wishes of the others during the planning of joint activities. Child can avoid joint activities, if someone refuses to accept his/her demands	2
Child sometimes takes part in joint activities, but tires quickly	1
Child avoids joint activities. Child can intensely react (how exactly) on attempts to include him/her into joint activities	0
8. Using communicative means	
Child wishes, refuses, asks for help adequately in any situations with different people at the level, that is expected for his/her same-age peers with typical development	4
Child wishes, refuses, asks for help adequately. Child needs a reminder in new situations (which exactly?)	3
Child is able to wish, to refuse, asks for help. Sometimes child needs a reminder in habitual for him/her situations	2
Child is able to wish, to refuse, to ask for help using available means, if adults' support is provided. Sometimes child uses cry and other forms of undesired behaviour (which exactly?)	1
Child does not have any skills of wishes (including wishes of help) or uses some forms of undesired behaviour (which exactly?) in order to achieve his/her goal	0
9. Skill to carry on a dialogue	
Child can start and finish a dialogue, can take into account interests of his/her interlocutor, can stick to text at the level, that is expected for his/her same-age peers with typical development	4
Child is able to maintain a dialogue on the topic, offered by interlocutor, for some time	3
Child prefers to speak on topics, which are interesting for him/her, does not take into account the opinion of interlocutor	2
Child sometimes initiates dialogue with other people	1
Child does not initiate dialogue. Child is able to answer questions	0
10. Skill to ask questions	
Child asks questions to different people adequately in order to get needed information at the level, that is expected for his/her same-age peers with typical development	4
Child asks questions to familiar adults and same-aged peers in order to get needed information	3
Child asks some questions in order to get needed information, but he/she asks only adults. Child can ask questions to same-aged peers only to support an adult	2
Child often asks one question again and again even when he/she gets the answer	1
Child almost does not ask questions	0
11. Emotional understanding, empathy	
Child expresses sympathy and takes care about other people (is glad for their success, helps them) at the level, that is expected for his/her same-age peers with typical development	4
Child expresses sympathy and takes care about other people. Child understands the reasons of some emotional conditions of other people	3
Child notices the emotional condition of other people. Child sometimes expresses sympathy and takes care about other people	2

Child sometimes interests about other people`s emotions (looks at them, transit emotions at himself/herself)	1
Child does not respond to feelings and experiences of other people or responds in a specific way (cries, laughs)	0
12. Skill to organize his/her own activity (pause, leisure)	
Child organizes his/her own activities, including orienting at other people`s behaviour model at the level, that is expected for his/her same-age peers with typical development. Child often chooses the same type of activity as the others, he/she is engaged in this activity for a long time	4
Child organizes his/her activity independently, he/she is able to be engaged in this activity for a long time, but the type of the activity is quite a cliched one	3
Child needs trivial help from adults during the organising his/her activity. Child can quickly tire and change one type of activity to another one	2
Child is not able to organize his/her activity independently. Child is able to be engaged in some activity only in case of constant external stimulation by adults	1
Child is not able to organize his/her activity independently. Child shows wick-willed behaviour and/or multiple autostimulation. Attempts to suggest him/her some activity are unsuccessful (amebic behaviour, autostimulation, standing alone)	0

Research results

The research to identify the level of development of ULA with a diagnosis of ASD (according to PMPK) was conducted among two first-grade pupils, taught using ABEP of PGE (version 8.2), through comprehensive diagnostics, carried in conjunction with the class teacher and accompanying specialists during observation, interviews, using the method of dynamic observation of students with ASD on the formation of ULA [4].

Pic. 1 presents the results of the level of the ULA formation in a girl with ASD for the initial period and taking into account the correctional and developmental program aimed at the development of communication, independence, compliance with the rules and norms of behavior (November 2018 – April 2018).

Pic. 1 Level of ULA formation of students with ASD

Pic. 2 presents the results of the level of the ULA formation in a boy with ASD for the initial period and taking into account the correctional and developmental program aimed at the development of communication, independence, compliance with the rules and norms of behavior (November 2018 – April 2018).

Pic. 2 Level of ULA formation of students with ASD

The diagram reflects the level of universal learning activities formation and allows to determine the effectiveness of correctional and developmental work, which is necessary to develop the life competence of students with ASD and adaptation in society.

The discussion of the results

The results of the girl's diagnosis show the effectiveness of correctional and developmental work, the average severity of autistic disorders. As can be seen from the graph, the positive dynamics is observed, the following indicators of the ULA have changed and continue to form: observance of the norms and rules of behavior, autonomy both when operating in new conditions, and organizing fairly stereotyped own activities, transferring knowledge and skills to a similar environment, communications.

According to the results of the research, presented on the diagram, we can speak about a more severe form of autistic spectrum disorder in the boy. It is a barrier for the formation of universal educational activities. At the moment, there is no positive dynamics, which may be due to a break in work during the summer period, lack of assistance provided by professionals and parents. The boy completely avoids joint activity, refuses to cooperate with both adults and same-aged peers, does not use communication, does not respond

to emotions and feelings, demonstrates wick-willed behaviour during organizing of independent activities. In accordance with the level of ULA formation, individually planned results, aimed at the formation of life competence, are determined. Consequently, it is also a barrier to form the life competence of the student with ASD, which are the main condition for safe activities.

In accordance with the identified level of formation of universal learning activities, individual planned results and further directions of correctional and developmental work are identified, aimed at developing life competencies and shaping safe behavior.

Conclusion

Diagnostics of the level of ULA formation of the students with ASD provides an opportunity for an objective assessment of the problems of students, for identifying the available resources of the child and for assessing of the effectiveness of the psychological and pedagogical support, provided within the framework of corrective work, aimed at the formation of life competence [4].

During the research, according to the diagnostics results, further directions of corrective work were identified for the formation of life competence for the girl: formation of social and everyday skills (extension of knowledge about the surrounding reality); the formation of communication skills (the ability to enter into a dialogue, ask questions). In accordance with the level of ULA formation, individually planned results, aimed at the formation of life competencies (the further development of communication, the ability to ask questions, the ability to achieve results) are determined.

The program of corrective action for the formation of life competence for the boy is aimed at correction of undesirable behaviour (exclusion of maladaptive behaviour: crying, screaming, correction of emotional and volitional disorders); the formation of social and everyday skills (following the rules of social behaviour and school rules); formation of communication skills (development of communication, formation of emotional contact); formation and development of oral speech (clarification and enrichment of vocabulary, development of coherent speech, phonemic perception). Proceeding from the above, individually planned results for the formation of life competencies were formed: following the rules and social norms, ability to achieve results, development of communication, cooperation skills, ability to emotional responsiveness and empathy.

As a result of our research, we marked out the main directions of the corrective-developing action, aimed at forming the life competence of students with ASD, evaluated its effectiveness and the possibilities of further work. We found out, that forming of such a competence is a necessary condition for creating of safe behaviour, because only formed communication skills, cooperation skills, accepted norms of social behaviour can help children in a difficult situation, can promote socialization and preserve the health of children with ASD.

The results of the research can be used by teachers during working with children with autism spectrum disorder in diagnosing the formation of universal educational activities, aimed at life competence developing.

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