How Children with Developmental Disorders Understand Emotional States of Their Peers and Adults in Different Interaction Situations

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Abstract-The way how children understand other people's emotional states is a significant factor in their successful adaptation in society. Children with developmental disorders experience considerable difficulties in differentiating similar emotions, controlling emotional manifestations. The aim of the research was to study how preschoolers with developmental disorders understand emotional states of their peers and adults. The study involved 227 children aged 5-7 years: 95 children with no developmental disorders and 132 children with motor, sensory, emotional and speech disorders. In order to study the features of comprehension of emotional states of peers and adults, we used Semago's "Emotional faces" technique and Veraksa's method for studying how children comprehend the tasks in situations of interaction. We have revealed the specificity interaction with peers and adults as well as the features of comprehension of emotional states of other people by children from each nosological group.

Keywords-emotions, interaction, children, preschool age, developmental disorders

I.   INTRODUCTION

According to Karakulova, the emotional sphere plays an important role in the acquisition of knowledge and skills, in establishing contacts with other people and in social adaptation [1]. The ability of a child to identify and designate emotional states is one of the most important conditions for adequate development of the affective-emotional sphere, as well as a necessary prerequisite for the possibility of verbalization of one's own experiences [2]. Emotions play one of the most important roles in formation and development of mental processes and personality traits as they represent the "core" of the child's mental life"[3]. The formation of attitudes towards emotions is associated with the range and specificity of the child's individual emotional experience, depends on the age dynamics of the ability to experience one or another emotion and the ability to realize and verbalize experiences. The development of emotion recognition skills is closely related to the development of the emotional sphere and develops in the process of communication with adults, as well as in the process of joint gaming activity [4].

The ability of children to understand each other's emotional states is a significant factor for successful adaptation in society. Trevisan's research revealed that the ability to identify the emotional state of a person is an important social and cognitive ability associated with social behavior and other characteristics of human cognitive abilities [5]. The process of recognition of the emotional states of peers and adults by children with developmental disorders is more complicated and has some peculiarities.

Maratkanova believes that preschoolers with speech disorders experience significant difficulties in differentiation and expression of personal emotions that have unstable nature [6]. It is difficult for children with motor disorders to express even the simplest emotions. Their emotional-volitional sphere becomes more sensitive to various external stimuli already in the early childhood [7]. Features of the emotional development of preschoolers with visual impairments were studied by Fedorenko [8]. The sensory-perceptual experience of children with visual impairments is insignificant, and this influences the formation of their attitudes towards emotions [9].

According to Petshak [10], primary defect in the form of a damaged or underdeveloped acoustic analyzer leads to secondary and tertiary disorders, determining the peculiarities of the emotional development of children with hearing impairments which manifest themselves in poverty of emotional manifestations [11]. According to L. Wing and J. Gould, children with various degrees of severity of the key signs of autism find it difficult to use speech for communication, express their own emotions and understand other people's emotions [12]. Alongside with specific manifestations of emotions, children experience difficulties in controlling their emotional manifestations and they demonstrate lower sensitivity to the emotional manifestations of other people [13, 14], which makes it difficult for this category of children to socialize and successfully adapt to the rules of society [15].

II.   ORGANIZATION OF THE RESEARCH

A. Data Sample

The study involved 5-7 year old 227 children attending various educational institutions: 95 children with no developmental disorders; 73 children with severe speech disorders; 9 children with motor disorders; 25 children with

visual impairments (squint, amblyopia, astigmatism); 15 children with hearing impairment (sensorineural hearing loss of III and IV degrees); 10 children with autism spectrum disorders.

B. Methods

The research used N.Y. Semago's technique called "Emotional faces", which was used to assess the possibility of adequate identification of emotional states as well as the accuracy and quality of this identification [2]. We also used N. E. Veraksa's method of studying communicative skills of children, which helps to reveals the specifics of a child's understanding of the tasks set by adults in various interaction situations as well as ways of expressing their attitude to adults and peers [16].

C. The Purpose of the Research was to study of the peculiarities of the ways how preschoolers with speech, hearing, vision, movement and emotional disorders understand the emotional states of peers and adults.

TABLE 1. HOW PRESCHOOLERS UNDERSTAND EMOTIONAL STATES

Emotional states	Children with no developmental disorders n =95	Children with speech disorders n =73	Children with motor disorders n =9	Visually impaired Children n =25	Children with hearing impairments n =15	Children with autism spectrum disorders n =10
Despite (Schematic)	90	86	78	60	86	30
Sadness (Schematic)	90	88	88	72	86	50
(Schematic)	81	85	33	80	90	50
Clear joy	85	71	77	80	73	30
Fear	26	23	11	16	26	20
Anger	65	60	22	56	20	10
Affability	84	84	66	80	26	40
Shame, guilt	56	44	44	32	20	20
Resentment	36	38	44	16	33	10
Surprise	72	51	66	44	0	0

III.   RESULT

A. Differentiation of Emotional States Using the N. Y. Semago's "Emotional Faces" Technique

Generally, preschoolers with speech disorders are able to correctly comprehend such emotional state as "despite" (86%), "joy" (85%), "affability" (84%), but find it difficult to define "anger" (60%), "surprise" (51%), "fear" (23%). The results of the research make it possible to state that preschoolers with severe speech disorders differentiate such emotions as "clear joy" (71% of children) and "anger" (60%) not well enough. When determining the internal state of a person, children, first of all, pay attention to the facial expression and overlook pantomime (poses, gestures) and "vocal facial expressions".

The most successfully recognized emotions for children with movement disorders are "sadness" (88%), "despite" (78%), and "clear joy" (77%). The most difficult emotion for recognition was the emotion of "fear" – only 11% of children could name it. Children with motor disorders found

it difficult to recognize the emotions of "anger" (22%), "shame, guilt" and "resentment" (44%).

The easiest task for the children with visual impairments was to define the emotions based on schematic images of "joy", "sadness" (80%), "despite" (60%), as well as to identify such emotions as "clear joy" (80%) and "affability"(80%). The greatest difficulties for children with visual impairment were caused by definition of such emotions as "resentment" and "fear", which were correctly identified by only 16% of visually impaired preschoolers.

The analysis of the process of recognizing emotions showed that the most recognizable emotion among children with hearing impairment was the emotion of "joy" (90%), and children understood the schematic images best of all. All children were given help in the form of hints.

The "surprise" emotion caused great difficulties in terms of recognition; not a single kid could identify this emotion correctly. Children had difficulties in differentiating such negative emotions as "resentment" (33%) and "shame, guilt" and "anger" (20%). Most often, children with hearing impairments confused them with each other; they often they

called these emotional states as "evil", "sad", or did not give an answer at all.

The emotional states that preschoolers with autism spectrum disorders determined most successfully were the states of "sadness" (50%) and "joy" (50%). The study conducted by I.A. Konevaya (2016) has also proved that the most recognizable emotional states among children with autism spectrum disorder are the states of "joy" and "sadness", while the state of "fear" turned out to be the least recognizable condition [Koneva]. The emotion of "surprise" could not be identified by any kid from this sample. Not much success they had with emotions of "resentment" and "anger" (10%). 20% of children identified the emotion of "fear" as "he screams", focusing on the fact that the child's mouth on the picture was wide open.

B. Studying the Understanding of the States of Peers and Adults in a Situation of Interaction ("Method of Studying Communicative Capabilities" by N. E. Veraksa)

Preschoolers with severe speech disorders quite clearly understand the tasks set by adults in various interaction situations (66%) and understand the state of their peers (52%). However, the level of the development of children's communicative skills in interaction situations is not very high. Children face with difficulties in expressing their attitude towards adults (34%) and their peers (29%). These difficulties can manifest themselves both in educational activities and in the ordinary life of children.

Children with motor disorders can identify different situations of interaction, both with adults and with their peers, but they not always they can regulate their behavior in accordance with the rules of the situation. The subjects experienced difficulties in defining and orienting in the emotional states of their peers, which lead to difficulties in communicating with them. The research showed that some preschoolers do not have a clear understanding of generally accepted standards and ways of expressing attitudes towards adults and peers.

Visually impaired preschoolers best coped with the tasks of understanding the state of their peers (60% of children distinguish the emotional states of their peers and orient themselves in these states during communication). When determining the level of development of understanding of the tasks given by adults in various situations of interaction, it was revealed that 52% of visually impaired preschoolers determine different situations of interaction, build their behavior in accordance with the tasks and requirements given, while 48% of children have minor or significant difficulties.

When determining the level of understanding of the tasks presented by adults in various situations of interaction, it was found that 47% of preschoolers with hearing impairments clearly identify various situations of interaction and align their behavior in accordance with them, and 20% almost do not recognize situations of interaction and do not single out tasks presented by adults in these situations

having serious difficulties in interacting and communicating with other people. It was revealed that children with hearing impairments clearly understand the state of their peers (87% of children are guided by the state of their peers in the process of communication). Only 40% of children have ideas about generally accepted norms and ways of expressing attitudes toward adults, and only 32% of preschoolers have stable ideas about generally accepted norms of behavior in situations of interaction with a peer and know how to provide help and support.

The results of our research on the communicative skills of preschoolers with autism spectrum disorders make it possible to note that half of the children from the examined group did not cope with a single task of the methodology; the worst results were obtained from the tasks aimed at identifying the adequacy of understanding of the tasks presented by adults in various situations of interaction.

IV. DISCUSSION

Our study revealed that preschoolers with severe speech disorders do not differentiate well enough similar emotions, they do not accurately identify the emotional state of their peers (angry, joy) and adult people. Negative emotions (despite, anger) seem to dominate and children themselves have increased tendency to stressful states. According to Kapitonenko [17], poor results of these tasks may be explained by preschoolers' age features of the development of the emotional sphere, as well as by the existing speech disorders.

Preschoolers with motor impairments correctly identify the emotional states of "despite", "sadness", "joy", however it was difficult for them to identify the emotions of "fear" and "guilt", which proves the results of Shipitsyna's studies [7]. This research specified emotions causing the greatest difficulties.

Identification the level of understanding about the ways of expressing attitudes towards adults and peers revealed that the majority of visually impaired preschoolers have unclearly formed ideas about socially acceptable actions in communication situations as well as about ways of expressing attitude. The studies confirm Abidova's opinion that the reduced capability of correlating the emotional state with their various modalities leads to difficulties in communication and interaction of children with visual impairments [18].

The results of the research clarify Rechitskaya's opinion about the poverty of emotional manifestations of children with hearing impairment, having revealed that children understand their peers better than adults, but they don't know how to show their attitude to them – they find it difficult to verbalize their emotions, which is caused by the peculiarity of emotional development determined by inferiority of speech and emotional communication with other people from the first days of their life [11].

Children with autistic spectrum disorders experience significant difficulties in recognizing various situations of

interaction – this correlates to the results of R. Brewer's research which found that children with autism spectrum disorders experience difficulties not only in recognizing the emotions of other people, but also in expressing their own emotions [19, 20].

V. CONCLUSION

The results of the research confirmed the assumption that children with developmental disabilities have significant difficulties in differentiating similar emotions as they cannot accurately determine the emotional state of their peers and people around them.

1. Tasks for categorization of emotional states cause difficulties for children with speech disorders, since they require good vocabulary for describing emotional states. Due to poor communication experience, children have difficulties with understanding of the meaning, causes and motives of the actions of other people, as well as the consequences of their actions, their influence on other people.

2. Preschoolers with motor impairments are inferior to their peers without developmental disorders in terms of accurate verbalization of emotional states, which becomes obvious when we look at their primitive descriptions of emotions. These difficulties are associated with mixing similar emotional states and with insufficient identification of emotions by its external expression.

3. Visually impaired preschoolers do not have clearly formed ideas about socially acceptable actions in communication situations – they have difficulties with expressing their attitude towards peers and adults.

4. Children with impaired hearing better understand the emotional states of their peers than adults, but they do not know how to show their attitude to their peers and find it difficult to verbalize the emotions.

5. Children with autism spectrum disorders have significant difficulties in recognizing different situations of interaction, singling out the tasks and requirements of adults in these situations. In the process of identifying emotional states, children with autism spectrum disorders almost never made attempts to mimic the emotion, experiencing difficulties in differentiating it.

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