CLINICAL CASE
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Application of the Video Modeling Method for the Social Skills Formation in a Child with ASD

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Objectives. Social interaction dysfunction is one of the main dysfunctions that are present in varying degrees of severity in all children with autism spectrum disorders (ASD). Social skills training in children with this diagnosis is always needful because it is very difficult for a person with ASD but very necessary for adaptation in society.

Methods. The video modeling method is one of the scientifically based methods that uses digital technology to record and demonstrate goal behaviors or skills. The article presents the case that describes the work of the social skills forming for 7-year-old boy with ASD. The work was realized at the school using the video modeling method. There were used the scales "Play and leisure", "Social interaction" from Methods of assessing basic speech and learning skills ABLLS-R to diagnose the skills of social interaction.

Results. Before the training there were found that boy hadn't got skills of a request addressed to classmates and game interaction with them, bud he had aggression towards classmates. At the end of training, according to the observations of the teacher and specialists of the support service, the boy's problematic behavior episodes decreased. The boy began to express the request with speech more often, to play action games at recess, a board game as well. The boy's results increased from 15 to 27 points on the "Play and Leisure" scale, from 17 to 29 points on the "Social Interaction" scale of The Assessment of Basic Language and Learning Skills ABLLS-R.

Conclusions. According to the results of the work, it is assumed that after large-scale testing the method of video modeling might be further used to develop the skills of play and communication in children with ASD who study with adapted education program (option 8.2) and do not have severe memory, attention and visual perception deficits.

Keywords: autism spectrum disorders (ASD), video modeling, The Assessment of Basic Language and Learning Skills (ABLLS-R), skills training, play skills

54

Аутизм и нарушения развития. Т. 21. № 3. 2023
Autism and Developmental Disorders (Russia). Vol. 21. No 3. 2023

Dukhanina O.S.
Application of the Video Modeling Method for the Social Skills Formation in a Child with ASD
Autism and Developmental Disorders. 2023. Vol. 21, no. 3, pp. 54—61

Применение метода видеомоделирования при формировании социальных навыков у ребенка с РАС

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Актуальность и цель. Нарушения социального взаимодействия составляют часть триады основных признаков, наблюдаемых у всех детей с расстройствами аутистического спектра (РАС). Поскольку овладение социальными навыками, необходимыми для обучения и адаптации в обществе, у ребенка с РАС сопряжено с трудностями, работе по их развитию уделяется особое внимание. Для формирования и развития социальных навыков в ряду других применяется метод видеомоделирования.

Методы и методики. Видеомоделирование — научно обоснованный метод, включающий использование цифровых технологий для записи и демонстрации целевого поведения или навыков. Представлен кейс с описанием работы педагога-психолога по формированию социальных навыков у 7-летнего мальчика А., имеющего РАС. Занятия проводились в школе в течение полугода с использованием метода видеомоделирования; дома ребенку также демонстрировались видеозаписи. Диагностика навыков социального взаимодействия у ребенка проводилась по шкалам «Игра и проведение досуга», «Социальное взаимодействие» Методики оценки базовых речевых и учебных навыков (Assessment of Basic Language and Learning Skills Revisited, ABLLS-R).

Результаты. До начала занятий у А. выявлены: отсутствие навыка просьбы, адресованной одноклассникам, отсутствие игрового взаимодействия с ними, агрессия по отношению к одноклассникам. По окончании цикла занятий, по наблюдениям учителя и специалистов службы сопровождения, у мальчика сократилось количество эпизодов проблемного поведения при взаимодействии со сверстниками. Он стал чаще выражать просьбу словами, играть в подвижные игры на переменах, в настольную игру. По результатам диагностики, по шкале «Игра и проведение досуга» показатели ребенка улучшились с 15 до 27 баллов и по шкале «Социальное взаимодействие» улучшились с 17 до 29 баллов.

Выводы. Результаты работы дают основания предполагать, что метод видеомоделирования после масштабной апробации может применяться для развития навыков игры и общения у детей с РАС, обучающихся по адаптированной основной общеобразовательной программе (вариант 8.2) и не имеющих выраженных нарушений памяти, внимания, зрительного восприятия.

Ключевые слова: расстройства аутистического спектра (РАС), видеомоделирование, Методика оценки базовых речевых и учебных навыков (ABLLS-R), формирование социальных навыков, навыки игры

Introduction

Social interaction disorders are an important diagnostic criterion for autism spectrum disorders, along with impaired communication skills, stereotyped behaviour, and special/super special interests [4; 5; 6; 11]. Difficulties in social interaction can be expressed in various forms, for example, in the form of social alienation — the child's apparent indifference to others, in making contact only when necessary or in a primitive form to receive pleasant sensations from hugs, tickling [7]. Also disorders in communication can be manifested in passive interaction — lack of initiative in communication on the part of a child with ASD, only in accepting attempts of interaction

on the part of another. In this case, for example, children may briefly participate in a joint game, while it is fully controlled and directed by a peer [15]. Active but unusual interaction manifests itself as contact, inappropriate in form or content, initiated most often to satisfy a special interest, not taking into account the needs and ideas of other children. Difficulties in communication in children with ASD sometimes appear as interaction inherent in children of younger biological age and insufficiently taking into account the boundaries and desires of the other [2, p. 170]. Strategies within two strands, behavioural and cognitive [1; 16], are used to build social interaction skills. The behavioural direction, based on applied behaviour analysis, includes step-by-step analysis,

Аутизм и нарушения развития. Т. 21. № 3. 2023
Autism and Developmental Disorders (Russia). Vol. 21. No 3. 2023

55

Духанина О.С.
Применение метода видеомоделирования при формировании социальных навыков у ребенка с РАС
Аутизм и нарушения развития. 2023. Т. 21. № 3. С. 54—61

random learning method, block method, modelling, video modelling and role-playing. The cognitive approach is represented by social stories, verbal and pictorial scenarios, social comics, and strategies for analyzing and solving problems.

In this case, video modelling was chosen to work on social skills formation in a boy with ASD [10; 12; 13; 14].

Video modelling is a skill-building technique that involves the use of video recordings and demonstration equipment to create a visual model of the target behaviour or skill being taught. The video is shown to the learner, who in turn has to demonstrate the target behaviour either now or later. The method is used to build social and communication skills, play skills, self-care skills, and in some cases to overcome problem behaviours [3]. The method has limitations, such as pronounced memory impairments, which do not allow the child to remember the watched video; pronounced attention disorders; visual perception disorders; and unformed imitation skills.

Variants of the video modelling method [3; 9].
1. Basic video modelling involves the creation of a video in which the target skill is demonstrated by someone other than the learner. The demonstrator can be either an adult or a peer of the child for whom the video is being created. 2. Participatory video modelling involves recording the actions of the learner for whom the video is being produced. 3. Viewpoint video — video modelling in which the learner sees the actions being performed from his or her position, as if "with his or her own eyes". 4. Video prompting — breaking down the target skill into small steps, with each filmed step followed by a pause where the student can repeat the actions seen in the recording.

The work was carried out over a six-month period at school and included 10 group and 10 mini-group sessions. The videos were also shown to the child in an individual format at home by the boy's parents.

Child's Characteristics

The boy A., 7 years 8 months old, is studying in the first grade under the adapted basic general education programme for students with ASD (variant 8.2). He lives in a full family with his mother, father and older brother, but spends most of his time with his grandmother. Before entering the first grade, A. attended a full-day group in a kindergarten, he did not communicate with the children there, according to his mother: "A. is separately — children are separately". The boy observed the daily regime and rules of behaviour in the group.

A. understands speech well, speaks in sentences, asks questions within the framework of the topic of the class or his own interests, can inform an adult about his needs..

At the beginning of the school year, A. had the following difficulties in adaptation and social behaviour: when failing, the boy worries, cries, calls himself stupid, tends to do a "bad" deed, for example, spilling water from the cooler, fails to calm down immediately, with difficulty. Aggression towards some classmates has been observed: A. did not want to share the blackboard with another child when drawing, watching the queue, fought if he was not first in the queue. A. did not interact with other children when playing together. When interacting with peers, he did not demonstrate the skills of requesting, preferring to take, snatching objects from hands. He did not initiate dialogue with classmates, but could respond to a greeting and some questions. During breaks, A. preferred activities that corresponded to his special interest — drawing vehicles, mainly buses, on the blackboard. He showed little interest in his classmates and sometimes reacted negatively to other children's initiatives — he could push or shove them with his fist. At the same time, A. tried to follow the rules of behaviour in the classroom, carried out tasks with interest and was oriented towards praise from the teacher. He was meticulous to the point of pedantry when completing tasks, and his own mistakes often led to destabilising his emotional state and the problematic behaviour described above.

Diagnostics

At the beginning of the school year, the child's development was diagnosed. In addition to the Weinland Scale of Adaptive Behaviour, for a more detailed diagnosis of social interaction we used the scales "Play and Leisure Activities", "Social Interaction" of the ABLLS-R Methodology of Assessment of Basic Language and Learning Skills [8; 9]. As a result, at the beginning of the school year, student A. scored 15 out of 54 points on the "Play and Leisure Activities" scale and 17 out of 80 points on the "Social Interaction" scale. The following skills were found to be underdeveloped: ability to share a toy, to play in the company of peers, to comment on one's own actions during play, to respond calmly to another child's touch, to respond to another child's initiative, to say hello independently, to ask a peer to give him an object, etc. For some skills, the criterion for a higher score was not met because the rule had to be fulfilled not only in interaction with adults but also with other children, which was difficult for A..

An individual remedial programme was drawn up for A in accordance with the diagnostic findings.

Intervention goals. The individualised programme included the following objectives regarding social interaction and developing play skills

56

Аутизм и нарушения развития. Т. 21. № 3. 2023
Autism and Developmental Disorders (Russia). Vol. 21. No 3. 2023

Dukhanina O.S.
Application of the Video Modeling Method for the Social Skills Formation in a Child with ASD
Autism and Developmental Disorders. 2023. Vol. 21, no. 3, pp. 54–61

1. To make a request to a classmate when needed.

2. To greet adults and classmates first.

3. Responding to a classmate's suggestion to play cars.

4. Using a counting rhyme to determine the order of play.

5. Play the movement games "Snake" and "Crow" with a group of classmates.

6. Play the board game "Snakes and Ladders" with a classmate, taking turns.

A video modelling method was chosen to teach the skills of asking and greeting independently, a simple car game paired with a classmate and the board game "Snakes and Ladders" to use the counting game.

Method

The video modelling method was chosen to implement this intervention because it is easy to use in both group and individual sessions, and video demonstrations are usually perceived positively by the students and allow them to see themselves from the outside.

Student A. has no limitations in applying the method.

Working with video modelling to develop social skills

The following steps were taken into account when creating training videos for A. [3]:

Stage 1: *Target behaviour determination.* In A.'s case, the target behaviour is prescribed in the individual correctional work programme. For example, one of the goals is to make a request to a classmate when necessary, and in accordance with this goal, an instructional video was produced to demonstrate the target behaviour with A.'s participation.

Stage 2: *Organising the learning environment.* For the creation, editing and playback of the recordings, a smart phone with video and audio recording capabilities, video editing software, an electronic tablet for individual demonstration of the video to a child and a personal computer for demonstration to a group of children were used.

Stage 3: *Planning the story.* Basic videomodelling as well as videomodelling with the child himself was used when working with A. Basic video modelling was used when the target skill or behaviour was in its most generalised form, and the video was shown not only in mini-group sessions with A, but also in group sessions for all the children in the class. For example, basic video modelling was used to teach the skill of saying hello to a classmate independently.

Stage 4: *Creating and editing the video.* The footage was filmed at minigroup sessions when A. was paired with a peer with a higher level of social skills development. For example, when teaching the board game "Snakes and Ladders", A. was paired with a classmate who was familiar with the game rules, successfully mastered the skill of passing the turn and calmly accepted losing. The children were warned in advance that their game would be filmed, and, according to observations, this served as an additional motivation for A. to demonstrate the best forms of behaviour, as well as to reduce the problem behaviour episodes' number (A. snatched objects from his partner's hands, pushed him, hit him on the arm with his fist). A smartphone for video recording was attached in front of the children. A. then demonstrated the target behaviour using verbal and gesture cues. Subsequently, the video was reviewed and edited: verbal and gesture cues, episodes of problem behaviour were removed, and the video was edited to reflect only the best version of the target behaviour.

Stage 5: *Showing the video recordings.* The recordings were shown to A. at the beginning of the session, and some of them were additionally sent to the boy's parents for viewing at home. In this case, in group sessions held once a week for 10 weeks, recordings were shown to teach how to say hello independently, ask for objects from a peer and use the counting rhyme. Once a week for 10 weeks, videos teaching board games and car games were shown in mini-group sessions just before play.

My experience showed that the child perceived watching the video as a form of recreation rather than learning, did not avoid it and showed interest in the show.

Fig. 1. Undesirable behaviour not included in the final video: A. hits a classmate with his fist when passing a move

Аутизм и нарушения развития. Т. 21. № 3. 2023
Autism and Developmental Disorders (Russia). Vol. 21. No 3. 2023

57

Духанина О.С.
Применение метода видеомоделирования при формировании социальных навыков у ребенка с РАС
Аутизм и нарушения развития. 2023. Т. 21. № 3. С. 54—61

Fig. 2. Target behaviour fragment: A. passes the die to a classmate after his move

Fig. 5. A still from a video teaching co-operative play with cars

Stage 6: *Monitoring the progress of mastering the skill.* In this case, no special formalised monitoring was conducted, but the specialists working with A. observed whether the target behaviours and skills also appeared in natural conditions — in lessons and breaks.

Stage 7: *Identifying and correcting errors that occurred during the creation of the video if the child was not making progress.* This stage was not performed because there was no formalised monitoring of progress in mastering skills, only observation.

Stage 8: *Gradual elimination of video recording, transition to independent realisation of the skill.* The video recordings were shown at the first six group and minigroup sessions, at the last four sessions the video recordings were not shown. The observation showed that after the elimination of the video recordings, in some cases A. needs verbal prompts from the specialist, for example, it is difficult for the boy to ask with words if the object in the hands of a peer is very attractive. A. does not need prompts when playing cars, "Snakes and Ladders" with two classmates whom he has started to call his friends. When interacting with other peers through games, the boy may sometimes exhibit problem behaviour.

Fig. 3. Undesirable behaviour not included in the final entry: without expressing the request in words, A. tends to snatch felt-tip pens from his classmate's hands

Results and Discussion

By the middle of the school year, 10 group and 10 minigroup sessions were conducted with A.. Then the ABBLS-R methodology was repeated diagnostics on the scales "Play and leisure activities" and "Social interaction". As a result, in the middle of the school year, student A. scored 27 out of 54 points on the scale "Play and leisure" and 29 out of 80 points on the scale "Social interaction" (Fig. 6).

Fig. 4. Target behaviour: A. expressed in words a request for felt-tip pens to be given to him

58

Аутизм и нарушения развития. Т. 21. № 3. 2023
Autism and Developmental Disorders (Russia). Vol. 21. No 3. 2023

Dukhanina O.S.
Application of the Video Modeling Method for the Social Skills Formation in a Child with ASD
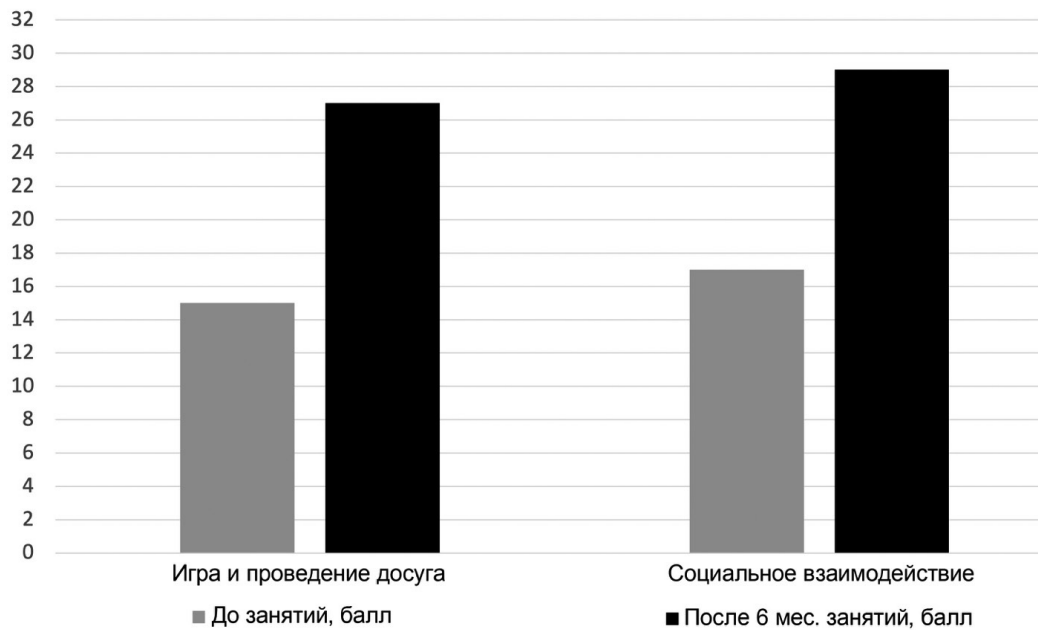Autism and Developmental Disorders. 2023. Vol. 21, no. 3, pp. 54—61

Fig. 6. Results of the early and mid-year diagnosis of social and play skills using the ABBLS-R method

1. The results of learner A.'s re-diagnosis showed improvements in mastering game skills and socialising skills with peers (Fig. 6).

2. According to the teacher's and support service specialists' observations, A. has reduced problem behaviour episodes in interaction with peers. The boy more often expresses his requests in words, shares board space when drawing with classmates, is interested in other children's drawings, and plays mobile games at recess (playing catch-up with cars or "rockets" made from a construction set).

3. A. singles out several children in the class, communicates and plays at recess mainly with them, calls them his friends.

4. A. can play cars and the board game "Snakes and Ladders" with two classmates without prompting from an adult and without displaying problem behaviour.

Conclusion

According to the results of the work with the method of video modelling for forming social interaction skills in student A., it can be assumed that this method, after extensive testing, can be further used for developing play and communication skills in children with ASD who are studying in the adapted basic general education programme (option 8.2) and do not have pronounced disorders of memory, attention and visual perception. Video recordings made using the basic video modelling method and with the child's participation can be used in the classroom.

My experience has shown that the situation of making a videotape can be perceived positively by the child, helping to demonstrate the best forms of behaviour, and that watching the videotape is not perceived by the child as learning, but rather as recreation and leisure, without causing avoidance. By watching the recording, the child observes his correct behaviour and sees his success, which, according to educators, helps to reduce his anxiety.

Strengths of the video modelling method also include the possibility of involving the family in the learning process and showing the educational videos not only in school but also at home.

Barriers to the use of this method include its labour-intensive nature and the need for specialised technical equipment such as smartphones and tablets. A teacher using video modelling needs competence in the field of technical means and software for creating and editing videos.

In the future, it is advisable to consider the use of video modelling for the development of a specific social interaction skill or game with full compliance with all stages of work, monitoring the progress of mastering the skill, assessing the effectiveness of the intervention, and identifying and eliminating errors when they occur. ▪

Аутизм и нарушения развития. Т. 21. № 3. 2023
Autism and Developmental Disorders (Russia). Vol. 21. No 3. 2023

59

Духанина О.С.
Применение метода видеомоделирования при формировании социальных навыков у ребенка с РАС
Аутизм и нарушения развития. 2023. Т. 21. № 3. С. 54—61

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60

Аутизм и нарушения развития. Т. 21. № 3. 2023
Autism and Developmental Disorders (Russia). Vol. 21. No 3. 2023

Dukhanina O.S.
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Аутизм и нарушения развития. Т. 21. № 3. 2023
Autism and Developmental Disorders (Russia). Vol. 21. No 3. 2023

61