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SUPPORTING SOCIAL SKILLS AND POSITIVE PARENTING

Manual for parents of children with autism spectrum conditions and professionals in their circle of support

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MSSA
Macedonian Scientific Society for Autism

Skopje, 2020

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PREFACE

Autism spectrum conditions continue intriguing the world as well as the domestic public due to its frequent occurrence, the uncertain mechanisms that prompt the conditions and, moreover, due to the lack of a unique treatment. Difficulties in the sphere of social development and the realization of interaction and communication with the environment are considered to be key vulnerabilities in autism. Difficulties in social functioning are the greatest factor that predicts the diagnosis and the forecast of the respective conditions. In the last decade, research has shown that these early deviations in social development contribute to the overall development of the child and its accommodation in the environment.

Our practical and theoretical experience denies the notion that children with autism are not social or that they have no strive for social interaction and communication. On the contrary, children with autism spectrum conditions often do not have the skills for an everyday social behaviour and these difficulties need to be recognized and implemented in a comprehensive individual program. Given the importance of the social interventions for children with autism, it is imperative for specialists and parents to have access to resources dedicated to social behaviour.

This manual offers you a variety of approaches, practices and evidence-based suggestions for parenting skills for children and youth with autism. However, it is important to point out that due to the heterogenous nature of the autism spectrum conditions, and regarding the parenting skills related to every child, there is no such thing as a unique approach. Therefore, this manual should be treated as a guide, having in mind the variability of success of a specific approach that depends on each child. Nevertheless, the principles described by the authors may be widely utilized and seen as useful for many families with children who have autism spectrum conditions. At the same time, this manual is a valuable tool that will be useful for different profiles of specialists included in the support of children as well as in their daily work. Apart from families, when making of the concept of this manual, we also had in mind the teachers, special educators and rehabilitators, speech therapists, psychologists, pedagogists, medical professionals, nursery caregivers, social workers, personal and education assistants as well as the future professionals, such as the students from the Institute for Special Education and Rehabilitation, and many other vocational profiles that will show their interest in this subject.

The manual “Supporting Social Skills and Positive Parenting” is the first such reading published in our country in three languages: Macedonian, English and Albanian. It covers 7 chapters which fully elaborate the curriculum for education of professionals and parents and the trainings realized in several public institutions of social protection and through a series of virtual workshops and webinars in the period from January to June 2020. The introductory part, which gives the basic characteristics of this pervasive condition, was prepared according to the material created by Prof. Dr. Vladimir Trajkovski, which was used for the needs of the trainings. The second chapter describes the developmental aspects of social skills and social communication and the most common challenges faced by children with autism. In the third chapter are given instructions for assessment of the socio-communication skills and the framework for intervention planning. The fourth chapter explains the evidence- based practices and types of approaches in teaching of this vulnerable category of children. These three chapters are formed according to the material used for the needs of the training and made by Ivana Vasilevska Petrovska, MA. In the fifth chapter, great attention is paid to the methods and tools for

child support, including: organizational support, social support, communication support and behavioural support. The fifth chapter was prepared according to the materials made by Ivana Vasilevska Petrovska, MA and Prof. Dr. Vladimir Trajkovski which were used for the needs of the training.

Lately, our understanding of the great influence of sensory sensitivity on the conditions of the spectrum has increased, so this topic has been approached from a practical aspect in the sixth chapter which was prepared by Prof. Dr. Vladimir Trajkovski. Last but not least, the final segment deals with sexual development and sexuality education as inevitably related to the social behaviour of children. The seventh chapter is prepared according to the materials that were used for the needs of the trainings, made by Tanja Stankova, MA.

This manual contains numerous illustrations and examples of practices that will be of immense help to parents and specialists.

We express our gratitude to the reviewers Radmila Stojkovska Aleksova, MA and Irena Lozana for the remarks and valuable suggestions in the favour of bringing this manuscript closer to its esteemed readers. Many thanks to the staff of the UNICEF Office in Skopje and the Government of the United Kingdom for the financial support of this manual.

Skopje, July 2020

Authors

CHAPTER 1. INTRODUCTION TO AUTISM SPECTRUM CONDITIONS

The conditions of the autistic spectrum are lifelong neurological conditions that occur in the developmental period until the age of 3. The spectrum includes conditions that greatly differ from one another but have common characteristics that relate to difficulties in two areas: social interaction and communication and the ability to think and act flexibly.

Our society is not sufficiently sensitized to people with spectrum conditions. Some parents are embarrassed of having a person with autism spectrum condition in the family. At the same time, these families do not receive the support they need so as to accept more easily their child's condition and learn how to cope with it. In addition, not enough funds are provided for the needs of this group of citizens. In the last ten years, the Macedonian Scientific Society for Autism (MSSA) has helped a lot to raise public awareness of the challenges of people with autism in our country.

Representation

Autism spectrum conditions are becoming more common throughout the world. It is not clear enough what are the exact factors that cause the increase of frequency rate. There are plausible explanations for the evident increase, including improved awareness, broadening of diagnostic criteria, improved diagnostic tools and better reporting. Epidemiological studies of autism spectrum conditions began more than 50 years ago. Research that studies and examines the causes for these conditions reveal the influence of genetic, biological, ecological and developmental factors. According to the data of the Centre for Disease Control and Prevention in the United States, autism spectrum conditions occur in 1 in 54 children. Autism is about 4 times more common in boys than in girls.

Unfortunately, there is no register of persons with these conditions in our country, however, if we make an estimation following the global statistics, that there are 100 persons with autism spectrum conditions per 10,000 persons, then it can be expected to have around 20,000 persons with autism in our country. The autism spectrum conditions have increased significantly in the last two decades.

Possible causes

The aetiology of the autism spectrum conditions is still unclear. The conditions/condition are/is thought to be caused by changes of a number of genes that are still not clearly identified. Genetic factors were first studied as significant in research in the 1970s and it was concluded that they have an impact on the incidence of autism together with environmental factors. According to the causes, autism can be idiopathic (when no risk factor can be found) and secondary (when a risk factor can be found). It is considered that about 80-85% of autism cases are idiopathic and 15%-20% are secondary.

The research on genetic factors for the occurrence of autism is provided through various family studies, tween studies, research on genes and these prove that there is a genetic base for the occurrence of ASC.

Research on environmental factors has shown that advanced age of parents and premature birth are significant risk factors. Other factors, that have not been proven yet, include exposure to polluted air of the pregnant women, effects of certain nutrients on the mother's metabolism, effects of chemicals on the endocrine system etc. The hereditary factor for ASC is very high and stands at about 90%, i.e. it is the highest compared to other neuropsychiatric conditions. Environmental factors frequently mentioned in literature include: irregular blood flow to brain areas, high fever in the early postnatal period, birth trauma, brain injury at or immediately following birth, infections, lack of oxygen prior, during and post birth, certain infections in the mother during pregnancy, adverse effects on the development of the baby's brain caused by alcohol and drug use.

Common Characteristics and Signs of Autism

The latest diagnostic criteria for identifying autism spectrum conditions are described in the fifth edition of the Diagnostic and Statistical Manual (DSM-5) by the American Psychiatric Association.

Sensory integration and modulation	Communication	Social interaction
Flexible thinking and behaviour	Attention and organization	Coordination

1.1. Challenges of autism spectrum conditions

Introduction to the autism spectrum conditions

The main characteristics of the autism spectrum conditions are sensory processing difficulties, motor difficulties, attention retention difficulties and other cognitive conditions as well as difficulties in social interaction, verbal and nonverbal communication and behaviour difficulties. The most common early signs that may indicate presence of autism spectrum condition during the first year are:

- ✓ lack of wide smiles or facial expressions of pleasure by and beyond 6 months;
- ✓ unresponsive to sounds, smiles or other facial expressions by and beyond 9 months;
- ✓ no babbling by 12 months;
- ✓ no progress in gestures such as pointing, reaching or waving by 12 months;
- ✓ no uttered words by 16 months;
- ✓ no two-syllable phrases (without mimicking) by 24 months;
- ✓ any loss of speech, babbling or social skills at any age.

All children with autism are different but there are some general characteristics that are more or less present in autism spectrum conditions. Children may have difficulties understanding spoken language, difficulties in verbal expression of needs, poor pronunciation and control of voice, incomplete or different understanding of social situations and gestures. Furthermore, children with autism show unusual reactions to touch, taste, smell and sound and may become frustrated when exposed to a big number of stimuli. An additional common feature is the unacceptance of novelties and experiencing difficulties in adjusting to new situations. Consequently, they manifest anxiety when changing routines and environment. They may show emotions that are inappropriate now and other socially unacceptable behaviours. Their play is simple and consists of spinning objects or stacking toys in a line. Often, these children seem clumsy and unskilled for daily motor activities and may show unusual self-stimulating behaviours, such as swinging and moving their fingers in front of their eyes. In the absence of proper understanding and support, children with autism may develop anxiety and, in some cases, aggression and auto aggression. Some children with autism may have difficulties with the process of education.

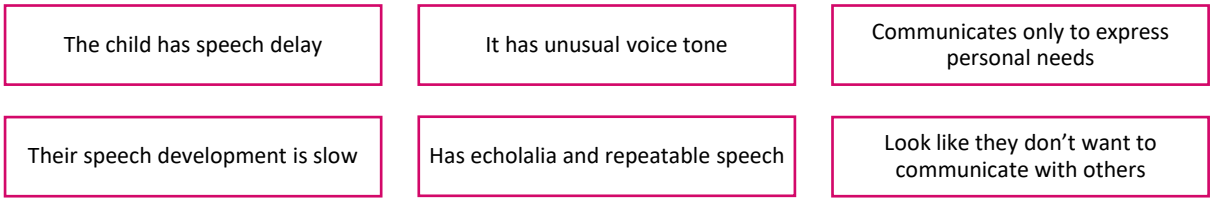

Fig. 1.2 Most common communication difficulties

Very often, the environment perceives children with autism as children with unusual or strange behaviour. This perception stems from the challenges that these children face in their daily lives. The opinions and perceptions of people around them are perceived in a different way by children with autism and may not be understood completely. Often, eye contact and physical contact are areas that need to be supported in order to have them performed. Causal relationships are not of great importance to them and often these children can do what others ask them to do yet this might negatively affect the child or the environment. They may be locked inside their own world or simply have difficulties in initiating interaction and participation in short conversations or to speak according to their age/ as a grown-up individual. Unwritten social rules are complex for these children and they need support in order to share information, news and personal experiences.

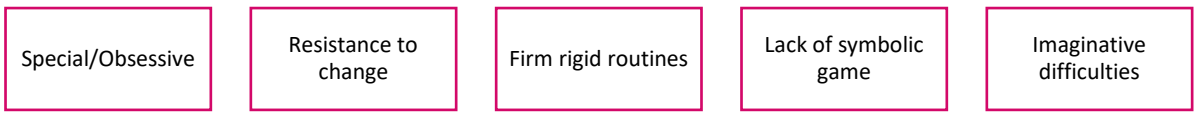

Fig. 1.3. Most common challenges in flexible behaviour and thinking

Children with autism spectrum conditions often repeat words or phrases that they have heard from another person, most often the last word they have heard. Up to 85% of the persons with autism spectrum conditions that can talk express repetitive speech, a condition known as echolalia. Echolalia refers to repetition of words without using them in a specific context. This may include mimicking of something that they have heard, a line from a book, song lyrics or a speech sequence from a show or a film.

Individuals with autism often have difficulties in the motor functions and development as well as in the reception and processing of stimuli. These persons may have involuntary, uncontrolled movements, emit unclear and uncontrolled sounds and develop tics.

Condition Assessment

The assessment of the needs of children with autism includes clinical and laboratory findings. This includes assessment of communication, cognitive abilities, social experiences, repetitive behaviour, activities and interests of the child. The assessment is performed by a team consisted of clinical psychologists, special educators, speech therapists, developmental therapists, occupational therapists, social workers, physicians (paediatricians, paediatric psychiatrists, paediatric neurologists, audiologists, physiologists) and dieticians. Clinical psychologists use different tools and tests to assess the intellectual abilities, abilities for adaptation behaviour and behaviour deviations, i.e. the personal or individual development of each child. Speech therapist assesses the level of development of speech and communication abilities, while audiologist assesses the child's hearing. Medical personnel (physicians, psychiatrists, paediatricians) assess the health condition of the child and, in addition, they collaborate and coordinate with the rest of the professionals who are engaged around the child. The assessment of the sensory-motor function is of great importance which follows the ways of perception, reaction and response to stimuli. The physician's role in this assessment is equally important to that of the occupational therapist. The assessment is made by observing the child in their home, nursery, school, medical facility and by communicating with individuals who know the child well. Instruments are used by trained physicians to establish a structured or unstructured approach to the child. When communicating to parents, teachers and other persons who are in contact with the child apply interviews and checklists through which they provide information. The advantage of the observation is that it provides more valid information and it is done by an experienced physician. On the other hand, the information provided by parents and teachers is equally significant because they often know their children best and spend most of their time with them.

Treatment

When examining children with ASC and their treatment, the effect that needs to be achieved is directed toward improving their functionality. To this end, the treatment should be intensive, continuous and include professionals of various realms. Also, early identification and early initiation of treatment, i.e. early intervention is of great importance. At the same time, parents should be reminded that, if a particular intervention is effective for one child, that does not mean that it will be equally effective for another or for all children. This way, parents' frustration and disappointment will be avoided. The most important treatments include: behavioural treatment, individual support by a special educator, speech and communication treatment, pharmacotherapy and family support. The focus on early educational programs relates to social skills and strengthening appropriate behaviours.

Behavioural treatments are designed by psychiatrists and psychologists in consultation with parents and teachers and these form the adaptive behaviour and reduce the less-acceptable behaviour. Behaviour is initially analysed by searching the causes and consequences of the child's specific behaviours and further application of the behaviour improvement program. The goal is to identify the factors that reward or encourage desirable behaviour as well as those that eliminate unwanted behaviour.

Educational programs should begin as soon as the child is diagnosed. Early intervention programs focus on learning social and communication skills. Previously, it was thought that children with autism could not learn. This view has led autistic children to be placed in institutions for intellectual disabilities and their lack of progress was seen as proof of their low learning abilities. Current findings suggest that, regardless of the intellectual level, any child can learn and acquire skills. The basic principle is that learning should be adapted to the individual child and the ability to learn has been proven by the progress made, regardless of the pace of knowledge acquisition.

The team working with children with autism spectrum conditions should be interdisciplinary and include the following professionals/specialists: developmental paediatricians, paediatric psychiatrists, paediatric neurologists, special educators, speech therapists, psychologists, social workers and, of course, parents. A few of the basic types of support and treatments known and used to date include:

- ✓ Educational support with personalized approach, education plan and/or program
- ✓ Behavioural treatment and support
- ✓ Development of social and pragmatic linguistic skills
- ✓ Family support
- ✓ Assisted and alternative communication
- ✓ Medical treatment
- ✓ Therapy with complementary and alternative medicaments

Outcome and prognosis

Understandably, every parent is interested to know how the child with autism will function in the future. However, a precise forecast for autism, Asperger's syndrome and the other types of autism spectrum conditions is difficult to predict. The range of possible outcomes is quite wide, as is the range of these conditions. A great number of objective and subjective factors affect the outcome of children with autism.

Early initiation of treatment is extremely important to ensure the optimal progress of the child. However, this does not mean that the older children do not benefit from treatment and interventions but often developmental gaps in older children are broader and more difficult to fill. For these reasons, we strongly recommend that your child starts treatment as soon as possible. The quality and appropriateness of treatment also plays a particularly important role in ensuring optimal progress in the child. Treatment should be based on established proven practices and be carried out by professionals/specialists. Due to the pervasive nature of autism spectrum conditions, all developmental areas should be covered in intensive and systematic intervention. Research shows that treatments with higher intensity have better effects on the child’s development. In conditions when a multidisciplinary team is involved in the treatment, it is extremely important that the team offers consistency in the approach that will reflect in the child’s home. Parents should also be fully involved and develop knowledge and skills to help their child to master new skills and generalize them into natural conditions.

Research shows that children of the same age who start with early intervention with an equal intensity, consistency and the same type of treatment may still have different outcomes. This is due to individual cognitive i.e. intellectual abilities of the child. Some may learn very quickly while others more slowly, some children have difficulty mastering abstract concepts while others may develop competencies in all developmental areas. The best possible outcome is possible for a great number of children in the scope of early intervention. However, even the children that will not achieve the best of the results may still have great improvement of life quality through support, interventions and treatment.

CHAPTER 2. SOCIAL CHALLENGES IN AUTISM SPECTRUM CONDITIONS

DEVELOPMENT OF BASIC SKILLS FOR SOCIAL COMMUNICATION

Children with autism may learn, including social skills. Atypical cognitive patterns prevent the children from spontaneous learning of social skills in the early childhood as typical children do. The cognitive challenges faced by children and young people with autism can be of varying severity, they are also found in the continuum/spectrum from the easiest to the most difficult, by the extent to which these difficulties dominate thinking and behaviour. The atypical cognitive style characteristic for autistic spectrum conditions is shown in the following table.

Cognitive area	Characteristic	Challenges in autism
Attention	Focused attention	Social attention
	Pre-selective attention	Joint attention
		Diversion of attention
Information processing	Repetitive patterns	Cognitive flexibility
	Visual processing	Auditory processing
	Attention to details	Integrating information
	Specific opinion	Abstract opinion
	Gestalt processing	Analytical opinion
	Learning by heart	Reminding
Social cognition	Literary language	Mind theory
	Systematization	Empathizing

Fig. 2.1. Review of cognitive characteristics in autism spectrum conditions

Developmental achievements include a set of functional skills, behaviours, and abilities that the majority of children acquire at a certain age. They refer to the way children learn (cognitive), how they interact (socially and emotionally), and how they speak (language and communication). The emergence of these basic developmental achievements is the basis for social-communication development.

Fig. 2.2 Basic social communication skills

Nonverbal social communication and mimicking skills develop spontaneously in the first years of a child's life. An overview of some of the early developmental achievements in the social sphere is given in the following table. The developmental process begins with the acquisition of nonverbal means of interaction with others, such as gestures, reciprocal interactions, and mimicking (motor and verbal).

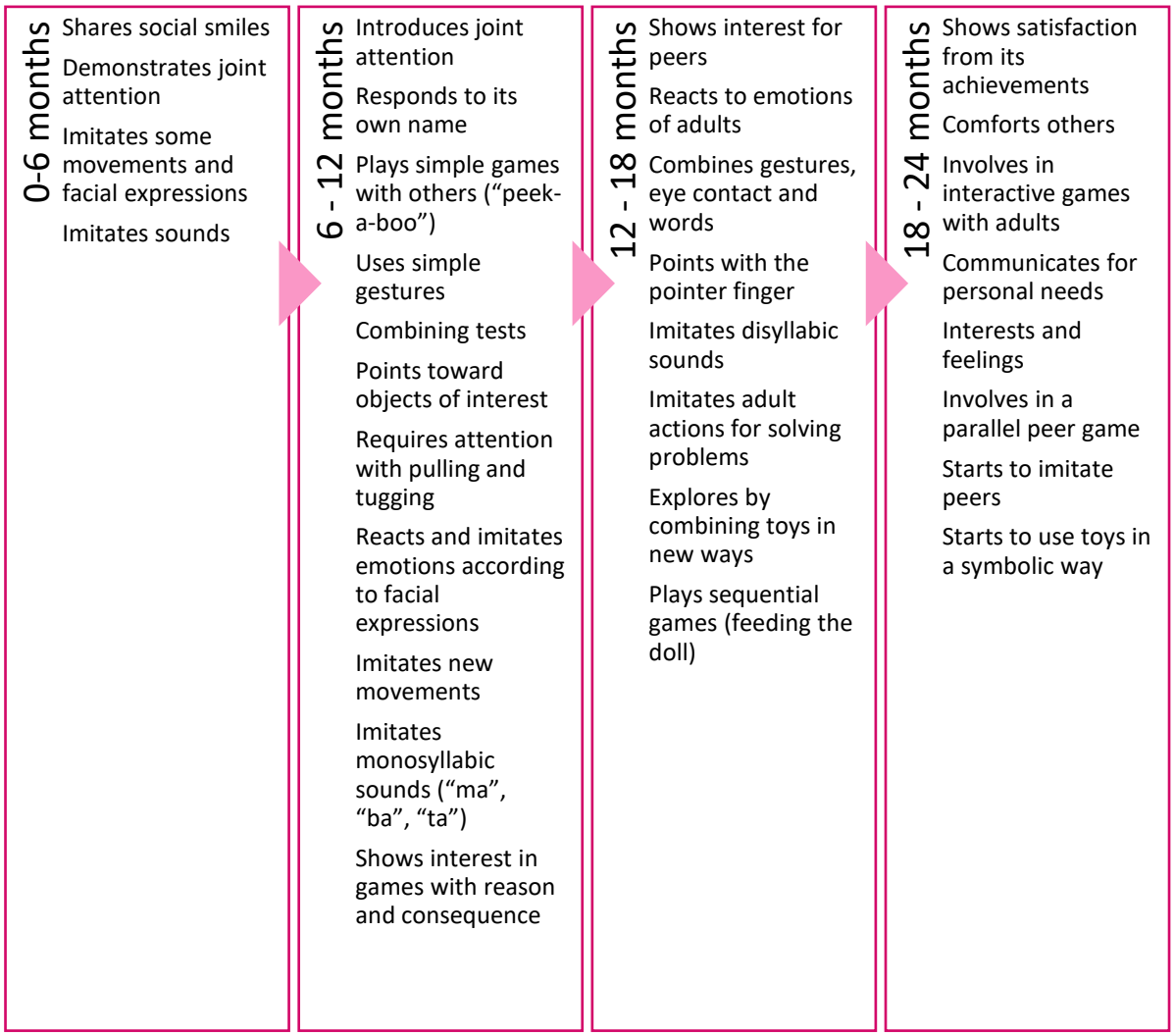

Fig. 2.3. Early Social Developmental Achievements (0-24 m)

The emergence of basic social communication skills depends on the child's temperament, social motivation and environmental research. The child's motivation to explore the environment depends on the child's level of comfort, the level of activity and his or her response to physical and social stimuli. When a child is motivated to explore the physical and social environment, he or she develops a growing understanding of how to socialize and communicate with others. In the early years, the most important is the child-adult relationship, which is the focus of the social interaction in the first years of the child's life, when the adult adapts his behaviour to the child, but also the child adjusts to the adult's behaviour.

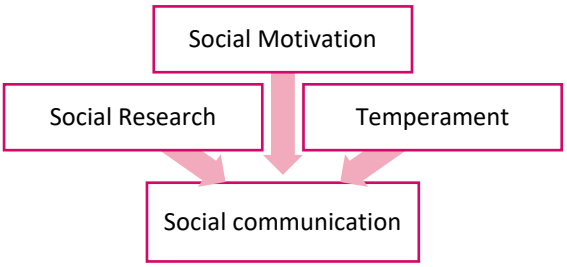

Fig. 2.4 Impacts on the development of social communication skills

NONVERBAL SOCIAL COMMUNICATION

In the first years of life, in the prelingual phase, when children have not yet developed speech skills, they develop an ability to use gaze, gestures and facial expressions in social interactions. These are non-verbal tools that they use to express a request, initiate social interactions, engage in intermittent interaction (me-you-me-you) and share their interests with others. In the same way they react (non-verbally) i.e. they respond to social interactions, requests, comments commenced by other individuals. The development of these behaviours is accompanied by development of social interaction and the ability to coordinate the use of gaze and gestures.

These early nonverbal socio-communicative interactions are extremely important for speech development and development of social skills as well as for comprehension of the meaning of emotions. They can be divided into three basic groups:

Behavioural regulation skills

These skills are used to regulate the behaviour of the other person in order to share/express an intention. For example, a child may ask for something by pulling their mother to the object or by vocalizing and reaching/pointing at the object. In this skill, what is important is the intention which is seen when the child uses gestures, sounds and other behaviours toward another person in order to achieve a certain goal. The intentional nonverbal behaviour is the beginning of the development of social communication.

Reciprocal interaction skills

Reciprocity is the use of nonverbal communication skills to initiate and maintain alternating interaction with another person. It refers to the use of gaze, gestures, facial expressions, simple strokes or vocalizations. Early reciprocal interactions of the child include smiling, waving for “goodbye”, and raising their arms when they want to be held in someone’s arms, and so on. Usually, at the age of about 9-12 months, the child engages in games such as "peek-a-boo" or other reciprocal games, such as vocalization, when the mother says/produces a sound and the baby repeats it.

Joint attention skills

Joint attention skills are coordinated non-verbal interactions that the child uses in order to share his or her attention to an object or event with another person. It is a set of skills to coordinate attention between himself/herself, another person and an object or event of interest. It basically consists of the

use of the gaze, but also the gesture. It includes 1) responding to signs given by another person by following his line of sight, or gesture of pointing at something, 2) coordinating the gaze and gestures with the other person, and 3) using the gaze and/or gestures to direct the other person's attention to an object or an event.

Mila celebrates her first birthday. She is seated on a special birthday chair, surrounded by members of her family and observes their reactions at the moment when the birthday cake comes into view. Mila looks at her mother and articulates vocals in order to draw the attention of the mother and then points to the cake. She constantly redirects her attention (gaze) from the cake to the guests who sing "Happy Birthday to You". She laughs and sways her head trying to follow the rhythm of the song. She applauds when everyone else applauds at the end of the song. Mila looks at her mother who pretends to blow the candles and mimic her. Mila and her mother blow the candles together. She applauds again, raises her hands in the air and looks at everyone, trying to get attention. She laughs when everyone cries "Hooray!".

For children with autism, social interactions are a real challenge because they do not know how to predict them, and interactions are activities that happen quickly and often change. The characteristics of social interactions are in direct contrast to the basic learning patterns for children with autism (Fig. 2.5).

In order to engage in interaction, children need to develop the ability to share their intentions, emotions, and attention. These abilities are learned in the first years of life.

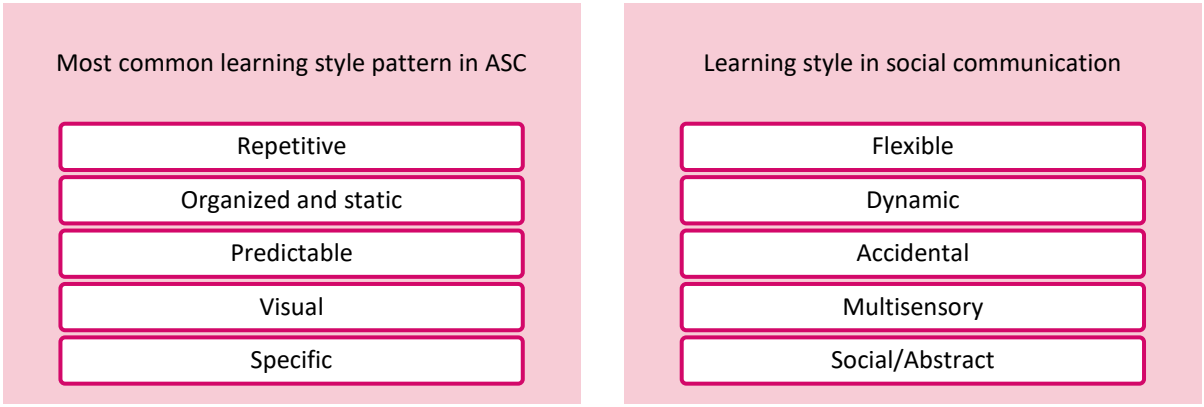

Fig. 2.5 Typical learning patterns versus social communication requirements

Alan likes numbers. If he could, he would recite numbers all day long. He can make a number chart of 1 to 500 all by himself, with neat columns and lines. His teacher notes that he successfully performs his tasks in class but does not participate in group discussions. He plays by himself with no other children. It is very important to recognize the strong and weak sides of Alan (Math and social difficulties) so that decision for his support can be made.

Usually, children with autism focus on things that make sense to them and ignore activities that do not make sense to them. In the case of Alan, the table of numbers and counting for him is static, unchangeable, predictable, repetitive, visual and specific, in many ways representative of the learning

style which is characteristic for many children with autism. Such and similar special interests, like numbers, letters, computers, trains, presidents, can be seen in many children with autism. In contrast, typical social interactions are unpredictable, dynamic, and random; they are multisensory experiences that require flexibility and social understanding.

Nonverbal social communication skills in autistic spectrum conditions can vary significantly, but in general, social reciprocity is affected in all individuals at both ends of the spectrum. In addition, we will look at the difficulties in the area of nonverbal social communication in children and young people with autism.

Behavioural regulation skills in children with autism

Nonverbal socio-communicative interactions which are used to regulate the behaviour of another person in order to express intention are difficulties for children with autism. Children may not express their intentions in a typical way, and their style of interaction is often unusual. For example, they may use different gestures to ask for something, may acquire the ability to respond/respond to others, but some elements of communication with the environment, such as self-initiated commenting and demonstrating coordinated attention, may be particularly difficult for them.

Luca has learned that the acceptable way of receiving someone's attention is by touching the wrist of the respective person. Therefore, one night he woke his mother up, uncovering her duvet to find her wrist. When he found it, he tapped her wrist in order to get her attention. It turned out that he had high fever. This displays that he always initiated a certain attention or social interaction in the completely same way eve when he is in a bad health condition. Luca does not have versatile means of communication with other people and he does not adjust his interaction style in a new context or a new situation.

It is not that children with autism do not express their intentions, but they do not do so for social reasons. They predominantly communicate to regulate the behaviour of others (to ask for something, to protest/reject something, to satisfy their needs), and not to share social experience. This behaviour is not characteristic of children with other specific speech-language difficulties or general developmental disorders (such as slow psychomotor development, intellectual disability, etc.).

Reciprocal Interaction Skills in Children with Autism

These skills are used to initiate or maintain alternating relationships with another person. Children with autism may know how to express a request for an object, a procedure or social routines but have difficulties in establishing and sharing their awareness of an object or another person. Everyday interaction is a challenge for children with autism who may not understand the process of reciprocal interactions, and therefore their social interaction is atypical and they show joint attention in a limited context. If these skills are encouraged and taught, children become more motivated to engage in interactions with the environment. The following example illustrates limited social reciprocity in a child with autism.

Dimitri is laughing out loud every time his parents tickle him or raise him up in the air. During the entire time when these social games are being played, he looks at them to initiate that he wants to proceed with the game. He uses the gaze to maintain many activities that are pleasant and significant to him. But he does not understand that he can also use his gaze to share his interests with his parents.

Joint attention skills in children with autism

Sharing attention with another person is an area that is a real challenge for children and adults with autism regardless of their age or developmental and intellectual level. Maintaining and directing attention is an area that is strongly influenced by environmental stimuli. Due to the existence of specific sensory sensitivities, each stimulus may affect children with autism differently, but the effect of that influence is visible through the child's attention. For example, if there are sounds or noises in the environment that disturb the hypersensitive child, it will not be able to direct his attention to another activity. It will be constantly irritated and will only focus on that specific sound or noise. The same thing happens with smell, touch, motor and visual stimuli. In these situations, the child is not able to enter and maintain social interaction and the entire situation is an unpleasant experience for the child. The sensitivity to visual stimuli, sounds, smells, touch and movements reduces the child's ability to respond to social interactions and the whole situation is an unpleasant experience for the child.

It can be a challenge for children with autism to look at one place and then at another, to keep focus on an activity, or to participate in initiatives and activities that require joint attention. For them, it is difficult to be distracted from one object to another, to point at objects, or share interest with the environment. Even when the child can direct their gaze, it is difficult to maintain communication and interaction with gestures, i.e. most often this type of communication is one-sided and goes from the interlocutor toward the child with autism. They seldom raise questions and encourage conversation. Challenges in children with autism refer to shifting their gaze from one place to another, as well as sharing attention with gestures. Children with autism may have difficulty responding to the attempts of others for joint attention (for example, looking at what the other person is pointing at), initiating joint attention (e.g. showing, pointing), and especially using joint attention to show and comment on something.

The absence of these skills has significant developmental consequences. When a child has difficulty establishing joint attention, he or she/they may not be aware that other people are interested in what he or she perceives. Challenges of joint attention are also associated with difficulties in regulating, understanding, and responding to social signs for the emotional and mental states of others. On the other hand, that aggravates the sharing of attention and emotions with others. The difficulties with establishing joint attention may be an explanation for the poor social attention, limited social interactions, and social reciprocity.

Jovan is seated on a special birthday chair, surrounded by members of his family and moves his fingers in front of his eyes. His mother is moving his hands aside in order to set the birthday cake. His father calls him by his name in order to draw his attention and take his photo. He does not look up and the father is trying to get his attention again by pointing at the cake. While everyone is singing “Happy Birthday to You”, Jovan moves his fingers in front of his eyes. He looks up when everyone cries “Hooray!” but does not make an eye-contact with anyone in particular in the room. Everyone is applauding at the end of the song. His mother is mimicking to blow the candle, hoping that Jovan will try to imitate her. At the end, they let Jovan’s brother blow the candle. Jovan does not show excitement and emotions at his birthday party and expresses evident difficulties in joint attention.

Difficulties in social skills in children with autism are of a qualitative nature. The child has difficulty understanding the social functions of the behaviour. This characteristic should be recognized when assessing a child's abilities and considered when creating a support program or intervention.

For example, if during the process of assessment, we use an instrument which requires that we indicate whether a child can point with a finger, we can conclude that the skill is present if the child demonstrates pointing to an object that it wants to get. However, such an assessment will fail to note that this behaviour has a limited function. Namely, the child points with their finger when he wants to get something, to satisfy some of his needs, but he does not point to show or share an object. Pointing at something in order to get it is a behaviour that has an individual function, only for itself, while pointing to share something has a social function because it is a sharing of experience and involves another person.

IMITATION

Imitation is a propensity to take up another person as a model and copy their behaviour. This ability is related to the development of cognitive, social and communication skills and is the basis for the development of symbolic play and symbolic thought. In this way, children develop awareness of themselves and their surroundings, learn how to share experiences and socialize with others. Through the imitation of gestures and sounds, the child expresses his intentions and desires and does so even before it develops speech. At 4 months, the baby mimics a smile and a frown; between 6 and 9 months the child mimics movements, sounds and gestures that he notices in the surrounding; from 9 to 12 months, the child has formed a gesture of significance (imitates a greeting, drinking from a glass of water); between 12 and 14 months the onset of symbolic play occurs (the stick is a sword, the brush is a microphone), and after the second year the child can imitate movements they have seen in a long time.

For children with autism, the ability to imitate is affected to various degrees. It is easier to imitate simple movements, which are already known to them, but also movements that have meaning for them, while they have greater difficulties with sequence movements and movements that do not matter to them. Some children with autism may associate learned movements only with a specific situation, i.e. they may have difficulty applying them to a new, altered situation.

Due to the importance of the ability of imitation in the overall development, it is recommended that the interventions for children with autism focus on the development of these skills. One of the approaches is behavioural, where skills are divided into smaller steps, and the child follows the lead of the adult. Another approach is developmental, where the adult follows the lead of the child, imitating their actions in natural conditions. This provides increased social attention and responsiveness of the child. The imitation of behaviour of the child during the activities presents clear and predictable responding i.e. reaction and allows the child to be an initiator of the interaction. This type of shared imitative activity is a positive experience of nonverbal communication for a child with autism.

It was noticed that Izabela did not have any improvement in the imitation skills during structural activities with a grown-up person. After several months of one-to-one activities with her educator for practicing fine motor imitation skills, she was just a passive collaborator. However, in a different environment, at a playground, Izabela followed the play of her peers on various playground props and imitated the children when they danced to music. Her ability for imitation was regulated with motivation and meaning.

It was noticed that there were no improvements in Jon regarding the structural programs for development of fine motor imitation skills. But with the help of toys and objects, he quickly learned to imitate simple play movements.

SOCIAL DEVELOPMENT

Social development of a child inevitably includes involvement in play and other activities in leisure time, interaction with adults and peers, and the acquisition of prosocial behaviour. Social skills are related to virtually every aspect of daily life and are necessary for the child at home, in school and in the community. The next section focuses on the development of social skills through play and leisure activities as well as socio-emotional connections.

Fig. 2.6 Social skills and social comprehension form social competency

PLAY

Play has an exceptional meaning for optimal child development. Its importance is recognized as a fundamental child right. In the developmental process of social skills two dimensions have a crucial role in the game: symbolic and social.

Imaginative play

From a symbolic point of view, there are three stages in the development of play, which, during the early years, becomes more complex, from manipulative, through functional to finally imaginative or symbolic play.

The symbolic type of play appears between 18 and 24 months. The first use of symbolism in play is self-directed (the child feeds itself with plastic toy-food), then it redirects to other persons (the child serves a cup of coffee to someone), and, at the end, we have symbolism directed toward objects – dolls or other toys (the child feeds the doll). The crossing toward imaginative play may be noticed when the child starts to use sound effects or gestures that are characteristic for the behaviour it "imitates". For example, when it starts to pretend that it drinks from a glass (which is empty) and leans the head backwards as if it was really drinking. Furthermore, in the development of this phase, children shift from using realistic to unrealistic objects, as if they were something completely different, and this is called object substitution. During the imaginative game, the children may adopt roles (speak on behalf of the teddy bear) and imagine faces and objects and use gestures and speech with them.

As the symbolic abilities develop, children become more capable to combine several mental representations in a row. For example, the children may organize scenarios for play related to a personal experience (for example, lunch routine). The imaginative play can be further inspired by books, stories and films. Between the age of 3 and 4, children use less and less realistic objects in the symbolic play and their play scenarios become rather based on speech and narration when socio-dramatic games become regular (for example, "a bride and a groom are getting married").

Exploratory	Functional	Imaginative
•active exploration of the environment •movements and sensory motor experiences •manipulation with objects and with the body •complexity increases as age progresses •base for functional and symbolic play development	•conventional application of toys and objects •delayed imitation •simple forms: lining up blocks, placing a cup on a saucer •complex forms: combing of the doll's hair, tucking a baby doll in a blanket	•functional game with imitation (drinks from an empty cup, pretends to read a book) •replacement of objects (using a block as an automobile) •imagining objects (talks with an invisible telephone that they hold close to their ear) •adding imaginary features to objects or people (the teddy bear is hungry, the stove top is hot etc.) •taking roles (talking about the teddy bear) •interaction with imaginary people (gestures and speech)

Fig. 2.7 Symbolic dimensions of play and leisure time

In autism we have qualitative differences in symbolic play. The main evident feature is the atypical development of the imaginative play. Natural flexibility and creativity in the play is generally not demonstrated in children with autism. They have a ritualized and preservative (repetitive) play. During the play, there may be rituals of body movements that stimulate the child or play with objects in a specific way. With the use of toys, a child can play simple repetitive (the child is constantly turning the toy), to complex, yet very accurate, play and performances of book, television or film sequences etc. Although these may seem like a mature form of imaginative play, they lack flexibility and imagination. Children with autism may engage in manipulative and functional play. However, there is evidence that functional play is very rarely directed at other people, compared to typical peers.

Understandably, some children with autism have imaginative play. Imaginative play in children with autism has a reduced frequency, reduced complexity, less novelties, and less spontaneity compared to typical peers, but also with children with other developmental disabilities. The way children with autism play reveals to us what they can understand. The repetitiveness of the game and the way children play with objects can reflect the limited understanding of how to use materials and objects in a creative way.

An informal survey of 100 young people with autism shows that they prefer to play physical games, use a computer, watch videos, watch books, complete puzzles and play video games. What do all these activities have in common? By nature, each of these activities is carried out in the same way over and over again. Repetitiveness is a key feature of a child with autism's play. For example, when playing with sand, the child always sows sand between their fingers. If they play with dice, they always line them up in neat rows. If looking at a book, they always count the pages from the front cover to the back cover. Their activities in the play consist of predictable behaviour, lack of flexibility, spontaneity and novelty in every situation.

Jovana plays on her own with long performances of sequences from her favourite stories and videos. Her performances are the same each time. She plays the stories in a very precise way and includes other objects that present some other object or a character from the story. But when someone tries to get involved in the game or to add a new object, she stops the game and withdraws.

Antonio learned how to use plasticine in different ways. At the beginning, he insisted on forming small balls and lining them up in a row. His teacher and peers showed him that there are other objects that can be made from plasticine, using cutters in the shape of animals and letters. On the first day, the teacher did not get involved in the activity with the cutters. She observed how Antonio uses the cutters. In a few minutes, he wrote Ben Ten (the name of his favourite cartoon character) with plasticine letters.

Social play

From a social perspective, play develops from independent, through social to forming of socio-emotional relations. And within the stages of symbolic play that we have considered before (manipulative, functional, and imaginative), children first begin with independent activities and later with social ones. Independent activities are necessary precursors to the social play, because they are a stage in which children learn how to use toys or materials by examining objects and space, knowledge that is later generalized in the social play. Also, independent play is very important for the development of imagination.

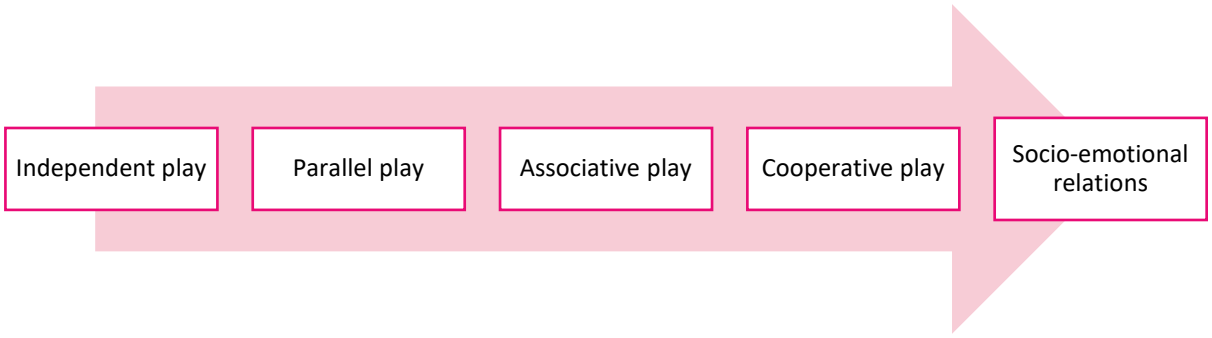

Fig. 2.8 Social dimensions of play and leisure time

Social play is a complex activity that involves self-regulation and social interaction with others. The ability to interact with peers is considered a basic indicator of a child's social skills. Usually, the development of a social play goes through a series of three stages: parallel play, associative play and cooperative play. At the beginning of the social play, children begin to observe and imitate someone else's play. The parallel play later turns into an associative play, in which children share attention, have a common focus, but still do not cooperate. This happens in the cooperative play phase when children share a common objective. Important elements of social play are social interaction, reciprocal communication and prosocial behaviour.

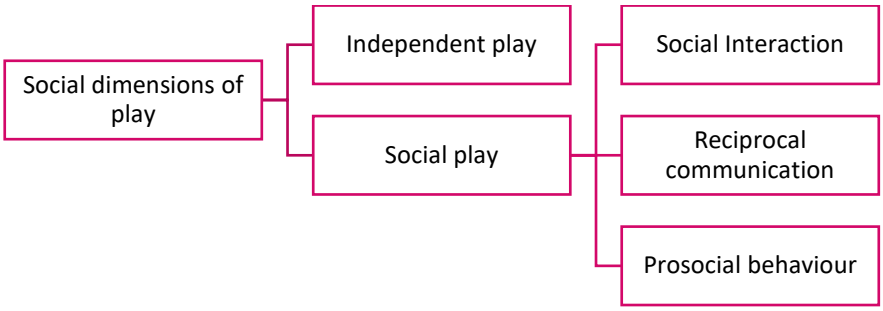

Fig. 2.9 Important elements of social play

Social interaction develops from parallel activity (two children who pretend to ride their school bus, or playing on the sand side by side with their own shovels and buckets), through associative activities (two children play with the same blocks but build separately, or play on the sand, they build their own castles, but share buckets and shovels), to cooperative game (two children build a common castle, or one is a bus driver and the other is a passenger on the bus). In the cooperative phase, social interaction develops gradually from limited initially to coordinated social behaviour in the later development.

Reciprocal communication is an inseparable part of social interaction. At this age, children use verbal and nonverbal means to begin and maintain interaction as well as respond to others. Attracting peer attention and ways to engage in play are primary social skills, key to social success. At this age, children make eye contact, gestures and physical proximity.

Objects and toys are the focus of joint attention. They gain the attention of peers by looking at them, pointing to objects, and showing objects. Although they use verbal means to interact with adults, they

are less likely to use verbal means with their peers, for example, they do not call peers by name. Because of this, nonverbal communication at this stage of development is crucial to initiating and maintaining interaction between children.

Prosocial behaviour. This refers to the so-called “acts of kindness” that characterize socio-emotional development. Examples of such behaviours include children's interactive actions for expressing positive attention, giving and sharing toys, giving help, showing affection and love, showing approval through words or emotions, and compromising. In addition, eye contact, emotional responses with smiles and laughter, and physical proximity are key cooperative practices that contribute to successful peer interactions.

It is important to note that speech and the ability to talk are not the primary means of interaction. They are not necessary for the child to be able to get positive answers, i.e. peer reactions, nor are they necessary for successful social interactions.

Significant social developmental achievements related to play and prosocial behaviour are summarized in 2.10.

12+ months	24+ months	36+ months	48+ months	60+ months
• imitates simple acts of adults • shows interest for peer activity • plays simple interactive play • enjoys listening to simple stories • enjoys in rough physical play • involves in parallel play	• tries to comfort others in stressful situations • starts using objects in a symbolic way • starts sharing toys • plays roles of adults in the game • imitates previously seen actions • participates in play of small groups under supervision	• shows preference of peers • names personal feelings • takes different roles in the imaginative play • starts to observe order (alternation) in play • plays in a group under supervision	• has a best friend • plays with others in a cooperative way • develops a logical order in play • follows rules of simple play • recognizes the need for help of others and helps • shares and follows order in play without reminders	• reacts positively to happiness of others, expresses happiness • has a group of best friends • follows the rules of the group and the community • takes complex roles of adults in play • involves in play that requires skills and decision-making • plays cooperative group play

Fig. 2.10 Significant social developmental achievements age 1 to 5

Play of children with autism

The play in the autistic spectrum varies in several respects. There are significant differences (qualitative and quantitative) in interactions compared to neurotypical peers. There are differences (qualitative and quantitative) in interactions with adults and peers. Children with autism most often want to play alone. But the reason for this may be the lack of functional skills for social play.

Lack of social skills is also seen in group activities. They are usually avoided because the structure of the activities is not known to them. They handle structural activities better, whose order and sequence they know and in which there are repetitive actions. They are attracted to closed-ended activities that do not require conversation. Events with many people, such as celebrations and birthday parties, are the biggest challenge for children with autism. Children with autism have very few friends, and that number declines over the years. Numerous factors influence the formation and maintenance of significant socio-emotional relationships in children with autism: difficulty in recognizing and understanding emotions and emotional signs of others, sensory sensitivity, anxiety (social anxiety, responsiveness, and fear of separation), restrictive repetitive behaviour and compulsive rituals.

DEVELOPMENT OF COMMUNICATION SKILLS

UNDERSTANDING OF SPEECH, LANGUAGE AND COMMUNICATION

To clearly understand the difficulties of communication in children with autism, it is important to distinguish between speech, language and communication.

Speech is the art of speaking. External speech is divided into oral and written. Oral speech is a verbal means of communication or the ability to use sounds for communication purposes. By the age of 5, children typically master oral motor skills to pronounce all the sounds in their language.

Language, on the other hand, is a formalized system of rules for using a conventional set of symbols. It can be in the form of oral speech (speech and speech synthesis technology), sign language and written language. Language is a regulated system of rules that includes phonology, morphology, and syntax to regulate structure, while semantics and pragmatics regulate the meaning of language and its use in context.

Words are symbols that represent a concept and have a specific meaning. The meaning of the words (semantics) is crucial for the use of language. The rules of the language apply to the receptive and expressive language. Receptive language is the ability to understand the connection between the meaning of words and the social context in which they are spoken: who the speaker/sender is, what they say, how they convey the message, how the words relate to the actual situation, how the words are related to what the recipient /listener knows about the particular topic. For example, if the speaker speaks in a tone of voice that shows frustration, the meaning of the words may change. Expressive language stems from understanding and using the rules of language as well as understanding the social context, and the perspective of the interlocutor.

Unlike language, which is symbolic and regulated by rules, communication is social and constantly changing. Successful communication involves fast directing of attention and understanding of the meaning of short-term, multisensory, linguistic, social, and emotional information. Communication

interaction implies the continuous integration of these elements from one moment to another, as well as the ability to constantly adjust in response to the behaviour of others. Communication is more than the ability to speak. It is a verbal and non-verbal interactive exchange between two or more people to express a need, feeling or idea and it is a fundamental social skill.

12+ months	24+ months	36+ months	40+ months	60+ months
• manifests occasional verbal mimicking • combines gestures for basic functions • plays simple interactive games • combines gestures and words for basic functions • expresses preference when confronted with choice	• uses nonverbal means for initiating peer interaction • comments and describes actual events • replies to simple questions • raises simple questions • nonverbally comforts others •*maintains simple conversation exchanges with adults	• retells a known story with the help of pictures • remembers earlier experiences when required • names their feelings • makes simple conversation exchanges with peers •engages in simple conversational exchanges on the telephone • verbally initiates peer interaction • uses body language and facial expression in communication	• expands their conversation abilities with peers • retells a popular story, episode or film • uses social phrases (I apologize, I am sorry) • connects events in a logically organized order • recognizes way of reaction toward feelings of others • begins to interpret body language of interlocutors	• communicates a wide range of topics • begins to take interlocutor's perspective into view • adjusts conversation to interlocutor's needs accordingly • uses language for negotiation and compromise

2.11. Significant developmental achievements in communication skills development

Preverbal communication

Communication begins with the first smile in infancy. Neurotypical children develop communication skills before they utter their first words. Babies use and combine gazes, gestures, physical proximity, facial expressions and vocalizations in interaction with others, through which they express what they want and what they do not want. Also, in the period between 6 and 12 months, neurotypical children achieve two-way and intentional preverbal communication. They establish joint attention, mimic simple voices during alternating social exchanges.

In children with autism in the preverbal phase, there are differences in the functional use of the language. Nonverbal communication at this stage is used only in a limited number of situations, more often for the child to ask for something and not to share something. The communication usually has no social function. Most often, children with autism do not show what they want, but pull the adult's hand towards the desired object. If a child with autism can point a finger at an object they cannot reach, they rarely do so to draw the attention of another person toward an object with social attention. Research show that improving joint attention skills results in improvements in social interactions,

spontaneous speech, and expressive language. With joint attention, children learn and name objects, thus increasing vocabulary and language development. The frequency and range of vocalizations increase with the improvement of the abilities to establish and respond to joint attention.

Verbal communication

In the verbal communication phase, with the emergence of language children acquire a range of verbal and non-verbal means to express the full range of socio-communicative functions. Language development ranges from one-word communication, through a combination of words to complete sentences.

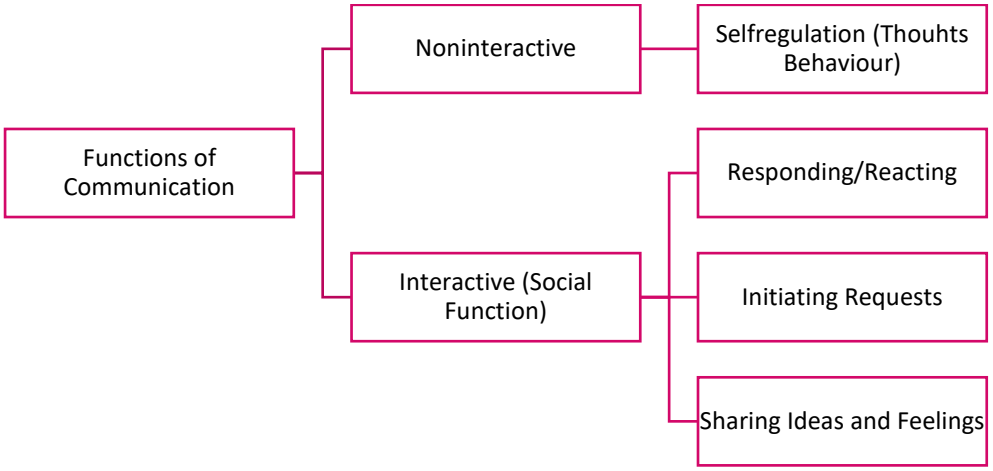

Fig. 2.12 Functions of verbal communication

Unlike language, communication is social exchange. Language is a single medium, one of the tools used for communication. Nonverbal messages, such as gaze, gestures, facial expressions, and other expressions of affection are equally important media for communication. Figure 2.13 shows the communication components. Effective communication can exist in the absence of language/speech, as in infants. Language/speech may be present in the absence of communication, as it is often seen in children with autism.

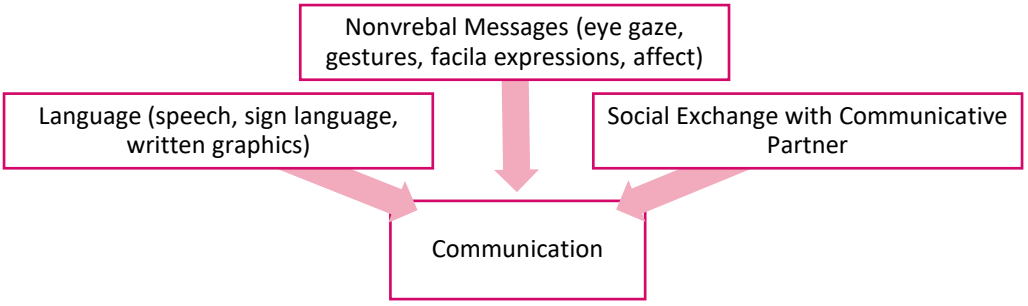

Fig. 2.13 Components of communication

- ✓ We can communicate without language, we can communicate nonverbally through facial expression, gestures and other nonverbal behaviours.
- ✓ We can use language without communicating. We can talk to ourselves without communicating with others. We can write information to ourselves without communicating with others.
- ✓ We can use language without speech. That is what we do when we use written information or sign language.
- ✓ We can communicate without speech. We can communicate with others through written language, sign language, nonverbal means like facial expression, gestures and behaviour.
- ✓ We can use speech without communication. You can talk to yourselves without communicating with others.

BEHAVIOUR IS COMMUNICATION

Communication difficulties are key features in recognizing autism spectrum conditions. The pervasive nature of these difficulties cannot be overstated. These challenges in establishing normal communication with the environment are reflected in the overall behaviour of the children.

The ability to speak differs from the ability to communicate. Children with autism, regardless of the level of speech development, have difficulty learning how to communicate with others. Although they may seem uninterested, they are doing everything they can to interact with others, but they do so in a different, atypical way. The child with autism uses a variety of positive and negative behaviours to express their needs and feelings. It's behaviour, both positive and negative, is communication. Laughter is communication, tantrums are communication, laughter is communication, escape is communication. Repeating the same words can also be communication, asking the same question over and over again even though the answer has already been given, is an attempt at communication. The real challenge is to find out what the child with autism wants to express through their behaviour.

Marko is 10 years old. His conversations with other people are always about where a person lives. Marko knows the city map by heart and always begins a conversation by asking "Where do you live?". When the interlocutor replies, Marko gives him detailed directions of how to get from his address to his own. Then he leaves and finds another person with whom he may repeat the same conversation and ask the same question. Marko enjoys talking to others about directions, but his ritual is seldom a subject of mutual satisfaction, while his availability to involve in other conversation topics is limited.

Challenges in comprehension of nonverbal communication

Children and adults with autism have difficulty to interpret socio-emotional signs/cues in others. Especially the subtler social and emotional messages, though they may notice extreme emotional expressions.

Examples of nonverbal social behaviours include the expression "come and show me how to do this", a gesture that means "let's play together" or the pose of the shrugged shoulders that means "I don't understand/I don't know".

Examples of nonverbal emotional behaviours include an angry voice, a sarcastic voice, or a gentle touch.

Ana likes to climb up things and often does that on furniture at home as well as at school. At home, her father approaches her, points his finger and tells her with a reprimand “Come down!”, then takes her hand and helps her to get off the piece of furniture. Ana likes the attention she receives from her father and does not interpret his firm tone of voice or pointer finger as disciplinary measure, rather as a game. As a result, Ana started climbing up the furniture more often, both at home and at school. Ana does not behave this way because she wants to be disobedient or bad, rather, in order to have fun interaction (according to her personal perception).

Researchers are still uncertain of the cause, but studies show that children with autism find it difficult to "read" faces and other emotional cues and understand their knowledge. Certain social stimuli can repel them due to their unusual sensitivity to touch, sound, and movement.

Challenges with Reciprocal Interaction

By definition, the reciprocal interaction means forward-back interaction, alternation, changing I-you-me-you, and sharing experiences. This interaction can take place without language or speech. In conversation, the interlocutors share new ideas, alternately ask and answer questions, and do so without much effort. When interacting with a person with autism, the real challenge is to get their attention, to encourage the person to respond, and to keep the communication going. The interaction lasts until the person satisfies his need and it seems uninterested in what the interlocutor is saying. Some people can reply quite well, but the interaction does not continue, it remains at the initial question and reply.

At best, interacting with people with autism seems unsynchronized and somehow strange or different. These personal perceptions of ours are quite real, and the person with autism is oversaturated, overstimulated in the process of reciprocal interaction.

Reduced range of communicative functions

At all stages of language development, children with autism have a limited repertoire of reasons for communication. In the non-verbal and verbal phase, communication is most often used in the function of:

- Requirements for personal needs (requesting an object of interest)
- Answers/reactions to others (answering simple questions)
- Searching for information (asking who, what, where)

Communicative functions that are less common:

- Commenting for sharing interests
- Searching for new information (why)

- Expressing feelings and conditions (I am sick)
- Using prosocial statements or verbal acts of kindness

Communication that results in a specific personal outcome or gain is more probable than communication which results in a shared social experience.

Two researchers conducted a longitudinal study comparing the development of conversational skills in children with autism, compared with two control groups of children with other developmental difficulties and typical development. In the control groups, as language skills increased, so did conversational skills. The children gained new information, introduced new topics of conversation, and used nonverbal skills effectively. In contrast, in children with autism, the development of language skills was not accompanied by development of conversational skills.

Rituals in communication function

Imagine that you have travelled to a distant island in the Pacific. You meet people who speak an unknown language and who have social conventions that you do not understand. What are you going to do during your stay there?

1. Are you going to isolate yourself from people because you are overwhelmed with new information that you do not understand, are you upset and confused?
2. Will you observe people from afar and try to discover patterns in the way they speak and behave?
3. Will you try to use one or two communication patterns that you see most often in people to interact with them?
4. Will you focus on finding ways to meet your personal needs (food, water, shelter, desired items/activities)?

Children with autism are sometimes referred to as anthropologists on earth. Their neurological system is designed to make it difficult for them to learn the social and communication conventions that most of us take for granted. For them, our communication and social skills are unknown and difficult to understand. Every person with autism uses a different compensation strategy – some isolate, others are passive observers, some identify patterns (phrases) that they often encounter in the environment to communicate with others (especially from adults, TV, radio, film), some learn a few fundamental social rules and use them continuously, and most of them learn the best ways to meet their personal needs.

Frosina is a student in the 5th grade whose communication intentions are difficult for others to understand. She talks by making full sentences, but many of her messages seem disconnected of the reality which surrounds her. Her favourite activity is watching films. She often does unusual associations between the people she meets and film characters. For example, when she met her therapist for the first time, she kept on saying "there's no place like home", a phrase from the film "The Wizard of Oz".

Frosina's mother noted that the therapist often wears red shoes that remind Frosina of Dorothy's red shoes in the film. During the entire year, Frosina approached her therapist and said: "There's no place like home" every time she wore the red shoes. This message is an example of delayed echolalia as well as an example of the unusual way of initiating communication with her educator. Her words actually mean "Hello, today you are wearing the red shoes just like Dorothy in "The Wizard of Oz" who says, "There's no place like home" when she wants to go home. Do you want to go home now?" Frosina's short message has a completely different meaning when it is understood by her therapist and now can be replied in a different way.

The reasons for repetitive and restrictive behaviour in communication (repetition of words, phrases, sentences, echolalia) are different. They may be of:

- Social nature, and are the person's best attempt to interact with others;
- Non-social nature, used to express anxiety;
- Non-social nature, used for self-calming, self-regulation;
- Non-social nature is an expression of difficulties with self-control.

The atypical way of communication of children with autism is their best attempt to satisfy their needs and interact with others.

Important features of communication in children with autism

- Children with autism want to interact, but do not know how to do it;
- Communication is generally used for specific outcomes, less for social satisfaction;
- Communication and interaction proceed in a specific, atypical way;
- For the person with autism, communication rituals are a way of compensating for social confusion;
- Children with autism want to interact, but do not know how to do that;
- Communication is generally used for specific outcomes, less so for social satisfaction;
- Communication and interaction take place in a specific, atypical way;
- Communication rituals for the person with autism are a way of compensating for social confusion;
- Children with autism use ritualistic interaction when they do not know what else to do or say;
- Children with autism have difficulty understanding: reciprocity, nonverbal signals, ways of sharing experiences, someone else's perspective;
- Children with autism can understand what you are saying, but not what you think;
- An autistic individual often uses challenging behaviour to express his or her social and communication frustrations.

You are a competent interlocutor. Adjust your style of interaction to the person with autism.

LANGUAGE IN AUTISM SPECTRUM CONDITIONS

When it comes to assessment of children with autism, language skills are not included in the group of criteria that indicate autism. But along with intellectual abilities, they affect a child's functionality. Most children with ASC develop speech later and this affects their language development, while some of them do not achieve functional speech at all and, of course, there are children who do develop speech and language skills. The social and emotional characteristics of children have a great impact on the persistence and understanding of the language. Children with ASC have a characteristic language and speech in terms of tempo, intonation, tone, accent, and rhythm. The greatest specifics relate to the use of language.

Receptive language:

- Understanding is specific to the context, there is no generalization;
- Poor understanding of abstract social concepts;
- Literacy

Expressive language:

- Echolalia
- Verbal rituals
- Alternative and Augmentative Communication

UNDERSTANDING RELATED TO CONTEXT

Sani has a favourite yellow cup at home that she uses for drinking. When one of the family members asks him "Do you want water?", they show Sani the yellow cup, or he takes it from the cupboard himself. When Sani is at school and someone asks him "Do you want water?", Sani does not seem to understand the sentence. Why? Does Sani understand the sentence?

The answer is yes and no. He understands the sentence only in the narrow social context of the "yellow cup" in his home, but he does not understand its meaning in other social contexts. As a result, his parents and school team have very different impressions of what Sani understands.

Other factors that influence speech comprehension

- Language (sentence length or complexity)
- Context (the relationship between a sentence and what is happening here and now)
- The speaker (use of gestures and other nonverbal cues/signs)
- Motivation (a person's interest in a particular topic)
- Routine (how familiar the person is with the message being said)

Quite often we see a person with autism who understands what is being said in one context or with one person, and remains confused in another context or when they reply to other people. Poor generalization of the meaning of language is common due to the difficulty of considering all aspects of the social context and the speaker. Sometimes adults misinterpret the lack of understanding as intentional disobedience in a person with autism or as disinterest.

Never suppose that the person with autism understands what you are saying.

DIFFICULTIES UNDERSTANDING ABSTRACT CONCEPTS

Children with autism usually develop understanding of specific words and concepts, but have challenges with understanding abstract words whose meaning is social and based on social relations. The significance of these concepts is related to social understanding and one's personal socio-emotional relations and experiences.

Examples	Nonsocial concepts	Social concept
• Nouns • Verbs • Adjectives	• a truck, a book, shoes • builds, walks, reads • red, empty, thin	• a friend, an aunt, a change • shares, pretends, remembers • happy, pretty, frustrated

Fig. 2.14 Examples of social and non-social concepts in language

LITERAL UNDERSTANDING OF RECEPTIVE SPEECH

Literal understanding refers strictly to the basic, specific meaning, without interpretation. It can refer to one word, one or more sentences, or written speech. The person does not take into account the social signs of the speaker and the connection between what is being said and the social context. Children with autism do not understand social cues such as the emotional quality of the speaker's voice or facial expressions regarding what he or she is saying. They rely on the words "out of context" or use specific signs in the middle instead of social signs to determine what someone is thinking with what they are saying. Thus, children with autism have difficulty understanding and interpreting other people's speech. It confuses and frustrates them.

Be careful when talking to children with autism. Their perspective may be different than yours. Do not assume that the person with autism knows what you are talking about.

ECHOLALIA

Due to the large number of children within the spectrum who develop speech (85%), it is important to understand this aspect of their expressive language. A great number of studies are investigating the phenomenon of echolalia in autism. As a result of that research, we now know that echolalia is not always a meaningless repetition, but is often used functionally for a variety of reasons.

Delayed and immediate echolalia may have the function of non-interactive ritualized speech (to do the following on its own):

- to remind themselves what to do (close, close, close),
- to calm down in a difficult situation (recite alphabet without interruption),
- to express anxiety in a difficult situation (repeats a phrase previously heard in another stressful situation),
- to withdraw from a stressful situation, to express some emotion.

Echolalia can also sometimes serve as a strategy for communicating and learning a language in children with autism, for example: learning syntax/grammar, learning the meaning of language, maintaining social interaction, and communicating with another person.

Focus on the intentions of communication of the person instead on the echo of words that you hear.

VERBAL RITUALS

Verbal rituals include some form of echolalia, repetitive speech, and uninterrupted posing of questions. Repetitive speech is a constant repetition of a word, phrase, topic without obvious communication intent. But sometimes verbal rituals can have a communicative purpose for the child.

Tomi is constantly reciting a few verses from his favourite book, continuously without any break, in two different situations: 1) While driving in a car with his father, 2) While waiting in a waiting room at the doctor's. In the first situation, the repetitive speech seems an expression of low inhibition and has no social or communicative value. In the second situation, the repetitive phrases of the child are told with strong emotions and the father feels that his son is upset for visiting the doctor's.

Consider the following important things:

- ✓ a person with autism might understand you in a routine context, however, not in new situations;
- ✓ a person with autism understands specific information rather than abstract ones;
- ✓ a person with autism often uses echolalia as a way of learning the language and to interact with others;
- ✓ a person with autism often manifests ritualistic language/speech due to several reasons, including anxiety
- ✓ do not assume that the person with autism who can speak understands you for certain
- ✓ remember the difference between expressive speech and communication
- ✓ focus on emotion and context, not only on words, to understand what the person thinks, i.e. wants to say.

CHAPTER 3. ASSESSMENT OF SOCIAL SKILL AND INTERVENTION PLANNING FRAMEWORK

ASSESSMENT OF SOCIAL AND COMMUNICATION SKILLS

There are a number of formal and informal instruments commonly used to assess social development, communication, and intervention needs in children with autism. Formal assessments are standardized instruments that measure a child's abilities and express them in terms of set norms or a normative sample. They are administered according to a certain protocol and provide measurable and numerical results. Examples include intelligence tests, school achievement tests, and standardized development tests (for language, motor development, etc.).

In contrast, informal assessments are non-standardized and express results in terms of set criteria. The results are not compared with a normative sample, rather, they are compared with a defined set of criteria or standards, and are used to design an intervention plan. For example, informal assessments provide a profile of adopted skills and a list of skills that can be targeted in the intervention. They generally provide qualitative results that can be directly related to the intervention.

When it comes to evaluating children and young people with autism spectrum conditions, informal assessment tools have strong advantages. The quality of social behaviour and communication in autism is better represented in non-standardized measures. The development of social and communication skills in children with autism does not follow the developmental chronological trajectory present in typical development and therefore standardized tests do not follow the developmental characteristics of children. Children with autism may adopt skills in different sequences, use skills in an idiosyncratic manner, or demonstrate unusual compensatory skills. Non-standardized instruments make it impossible to extract significant qualitative information and set intervention goals.

The measuring of these skills should be a priority in assessment and intervention because difficulties in socio-communication development are central to autism. As a result, most of the instruments for social and communication development assessment are informal instruments designed to identify the advantages and disadvantages and to instruct the development of the intervention plan. In Appendix 1, there is a table which distinguishes the most commonly used informal instruments for assessing social and communication skills in children and young people from the autistic spectrum.

DIRECTIONS FOR SELECTION AND APPLICATION OF AN ASSESSMENT INSTRUMENT

When choosing the most appropriate assessment tool to use, make sure that the instrument meets the following several criteria:

- Identifies the child's social and communication strengths as well as his or her needs;
- Identifies barriers to skills acquisition, skills development and their functional generalized use;
- Prioritizes specific goals and outcomes of the intervention;
- Determines which skills are generalized and functional;
- Monitors the progress of the person.

The purpose of these assessment instruments is to measure the functional, generalized use of skills. For skill acquisition levels, we suggest using the following coding system:

1. Absent - skills that are observed seldom or never
2. Developing-skills acquired with direct instructions, but observed only in one environment, applied with or without encouragement
3. Acquired-skills through direct instruction, but noticed only in learned circumstances, which are used without encouragement (generally, the skill should be present in a minimum of 3 to 5 circumstances, persons or activities);
4. Generalized - skills used independently and functionally applied in learned and unfamiliar circumstances.

Diligent data collection is an integral part of any assessment process. When administering the instrument and collecting data, we encourage evaluators to follow best established practices and use multiple different data sources (interviews, observations in natural conditions, and structured observations). An example of good practice is if the evaluator knows the child well and has at least two or more relevant sources available (parents, teachers, special educators, rehabilitators/therapists, speech therapists, etc.). The extension and relevance of the information increases with the involvement of more persons who know the child.

The first step is to provide information about the child's socio-communication skills through structured team interviews with people who know the child well and can give us accurate and detailed information about them (family members and professionals, members of the professional team, etc.).

If there are uncertainties or disagreements in the team regarding the presence or absence of a skill, the next step was to observe the activities in which these abilities are expected to occur naturally. In cases where there are no opportunities for observation in natural conditions, the third step is to assess the person through structured observations.

The assessment is not time-limited and lasts until all the necessary data have been provided. The evaluator and the team can determine where and what activities are likely to provide the necessary information about the child's socio-communication competencies. Observations can be made at home, at school, at the daycare centre or in similar environments or in the community. The main goal is to determine in which circumstances the person is most socially engaged and communicative. When the possibilities for observation in several different environments are limited, information can be obtained by analysing videos of the child's social activities and interactions with adults and peers.

During the interviews and observations, the possible influence of gender roles should be considered, as well as the socio-economic status and the family, cultural and linguistic differences that have an impact on the specific skills of the child as well as on all of the decisions related to the intervention's priorities.

SOCIO-COMMUNICATIVE SKILLS INVENTORY

This section includes a repertoire of socio-communication skills that are commonly taken into account when assessing social skills, and at the same time can serve to generate a list of specific program objectives based on the data obtained from the assessment. We recommend that they be used through the prism of the proposed skill acquisition levels (absent, developing, acquired, generalized)

Part 1. Basic social interaction skills

This section refers to the skills that underlie learning: nonverbal social interaction, imitation, organization, and self-regulation.

1.1 Nonverbal social interaction skills

Joint attention

(9 skills)

(1) Responds to their name by stopping the activity and looking at the person calling them

(2) Looks at objects pointed at by another person

(3) Alternately diverts attention between the interlocutor and the object, and again to the interlocutor to maintain the interaction

(4) Maintains joint attention with one interlocutor for 1 or more minutes, during a familiar activity

(5) Hands objects to another person to share interest

(6) Indicates objects to share interest with another person

(7) Receives the attention of the interlocutor before sharing/starting an interaction

(8) Maintains joint attention in small groups for 1 or more minutes during a familiar activity

(9) Looks at people that they know to see if they are safe before engaging in new activities (i.e. social reference)

Nonverbal gestures (8 skills)

(1) Uses a social smile to maintain interaction

(2) It pushes, pulls, manipulates the person to make gestures (uses the partner's hand as a tool for a specific purpose)

(3) Gives or uses objects to make gesture (asks for help by giving a certain object)

(4) Points a finger to ask for something

(5) Shakes their head to say "no"

(6) (5) Shake their hand to say hello and/or "goodbye"

(7) Nod their head to say "yes"

(8) Uses other conventional gestures to maintain interaction (shrugging shoulders, giving "high-five")

1.2 Imitative skills

Social awareness (6 skills)

(1) Stays physically close to others during familiar activities
(2) Looks at adults during familiar activities
(3) Looks at peers during familiar activities
(4) Spontaneously imitates the actions of others during familiar activities
(5) Spontaneously imitates the actions of others during novel activities
(6) Spontaneously mimics the words of others during an activity (speech, sign language, AAC)

Motor imitation (6 skills)

(1) Imitates a specific movement during familiar activities
(2) Imitates a movement with an object on a given order
(3) Imitates a movement of the body on a given order
(4) Imitates a sequence of two or three movements on a given order
(5) Imitates a sequence of two or three movements without a command, in a known context
(6) Imitates movements in a novel context

Verbal imitation (6 skills)

(1) Imitates vocalizations/sound effects
(2) Imitates word(s) during songs and/or movement activities
(3) Imitates words during daily routines
(4) Imitates words(s) during structured one-to-one activities
(5) Imitates words(s) on request during a familiar activity
(6) Imitates words(s) on request in a novel context

1.3 Organization skills

Organization of material (4 skills)

(1) Prepares for the activity that follows by taking the necessary things/materials (e.g. book, jacket) without additional verbal directions or visual/written schedule or checklist
(2) Organizes the objects/materials before the beginning of the activity, without additional verbal directions or visual/written schedule or checklist
(3) Keeps objects/materials organized in the appropriate place during an activity
(4) Completes the activity by tidying up the materials, without additional verbal directions or visual/written schedule or checklist

Choice making (4 skills)	(1) Selects the preferred item from the two offered items during the activity (2) Selects the preferred activity from two offered and the immediately available activities (3) Selects the preferred activity from two offered activities that will be available later (4) Prioritizes their choices
Time organization (4 skills)	(1) Engages in familiar activities to their end with the help of visual support (e.g. visual timer, activity checklist, schedule) (2) Initiates and starts off activities on a given order (3) Waits on a given order (4) Engages in familiar activities until they finish, independently, without the help of visual support (e.g. visual timer, checklist for activities, schedule)

1.4 Self-regulations skills

Transitions (4 skills)	(1) Transfers to the next activity on a given order (2) Accepts when a familiar activity is interrupted in order to switch to another (3) Accepts when a favourite activity is interrupted to switch to another (4) Transfers from one activity to another, when it comes to unexpected changes in schedule or routine
Emotional regulation (4 skills)	(1) Engages in the activity of calmer behaviour on a given order or by modelling (2) Engages in calming, frustrating, and anxious activities as alternatives to challenging behaviour (3) Monitors their own stress level and seeks a calming activity to deal with frustration and anxiety, with encouragement (4) Monitors their own stress level and seeks calming activity to deal with frustration and anxiety, on their own

Part 2. Social skills

Section 2 refers to the repertoire of social skills and social competencies in three areas: independent play and social play, group skills, comprehension of someone else's perspective.

2.1 Play and leisure time

Independent play (6 skills)

(1) Plays with one object using the materials as intended

(2) Plays in closed type activities (games with clear beginning and end) (e.g. puzzles)

(3) Plays with predictable scenarios (e.g. playing "birthday party")

(4) Plays open type activities (games without a clear beginning and end) (e.g. lining up blocks)

(5) Engages in symbolic-imaginative, creative use of materials (uses them in a way other than their initial purpose, for example, driving a block or singing with a TV remote control)

(6) Engages in independent, self-initiating activity for more than 15 minutes

Social play and leisure time – structured activities (6 skills)

(1) Participates in unique group activities (all performing the same activity at the same time) that do not involve the use of language (i.e. watching/imitating others while doing something all at the same time; it does not involve the use of materials, sharing, changing/waiting order or verbal interaction). For example, watching a movie or practicing yoga

(2) Participates in parallel group activities that do not involve the use of language, with its own set of materials/objects (i.e. uses the material and sees/imitates the others; does not refer to changing with a partner, sharing materials and verbal interaction). For example, individual work on an art workshop

3) It swaps with one partner during structured group activities that do not involve the use of language (i.e. uses its own materials, sees/imitates the others, swaps with the others in organized predictable activity; does not refer to sharing materials or verbal interaction) e.g. swaps with a friend when playing cards, memory, bingo games)

(4) Shares objects/materials with one person

(5) Participates in parallel group activities that do not involve the use of language, with organized objects/materials, (i.e. sees/imitates others, shares materials/objects; does not refer to changing/waiting order and verbal interaction). For example, using musical instruments in a group

(6) They swap with partners, in small, structured groups in activities that do not involve the use of language (i.e. sees/imitates others, changes in an organized, predictable way, does not refer to sharing materials or verbal interaction). For example. Playing “Ludo” or other social board games.

Social play and leisure time – unstructured activities (6 skills)

(1) Shares objects/materials in small groups with two or more persons (e.g. parallel game)

(2) Collaborates with one partner during an open-ended unstructured activity, without a common goal (i.e. sees the others, shares materials and listens to the others; does not refer to verbal interaction) E.g. rigging Lego with one partner.

(3) Collaborates in unstructured open-ended group activity of without a common goal (i.e. activities in which there is an opportunity to see others, share materials and listen to others; does not refer to verbal interaction) E.g. rigging Lego in a small group

(4) Collaborates with one partner during an unstructured open-ended activity, with a common goal (i.e. sharing materials, swapping with the others and achieving verbal interaction) E.g. making/building something with a partner (working together)

(5) Collaborates in a semi-structured group activity that involves the use of language and a common goal (i.e., sharing materials, swapping with the others, and achieving reciprocal verbal interaction). Playing hide and seek in a small group

(6) Collaborates in a non-structured group open-ended activity that includes a common goal (i.e. shares materials, swaps with others and achieves reciprocal verbal interaction) E.g. playing football.

2.2 Group skills

Participates in a group (7 skills)

(1) Universal activities (everyone performing the same activity at the same time): remains close to others during group activities that do not require interaction (e.g. watching television, film, musical event, performance)

(2) Universal activities (everyone performing the same activity at the same time): Participates in structured group activities, i.e. practical work that does not require sharing, altering or verbal interaction (e.g. on a joint art project/making)

3) Universal activities (all simultaneously performing the same activity): Participates in structured group activities that include listening, but not sharing, changing or verbal interaction (e.g. listening to a story, choir)

(4) Non-verbal activities with changing: participates non-verbally in structured group games with change, which do not require the use of language (e.g. video games, sports activities)

(5) Verbal activities with changing: Participate verbally in structured group activities by changing and using language (e.g. social games, acting in performances)

(6) Cooperative non-verbal activities: Participates non-verbally in open-ended group activities of others (break at school, leisure time)

(7) Cooperative verbal activities: Participates verbally in open-ended group activities (conversation, meeting)

Changing/waiting in line in group activities (6 skills)

(1) Participates in structured group activities

(2) Waits in line with the group

(3) They raise their hand to ask for their turn in the group activity

(4) Make transitions with the group

(5) Waits its turn during structured group activities

(6) Changes during unstructured group activities

Follows group instructions (5 skills)

(1) Follows non-verbal group instructions (ring the bell, turn off the light)

(2) Follows routine verbal group instructions (clean, collect)

(3) Follows group guidelines that include attracting the group's attention (children, let's....)

(4) Follows verbal group instructions in familiar contexts

(5) Follows verbal group instructions in new, unfamiliar contexts

2.3 Social Perspective-Taking Skills

Emotional understanding (8 skills)

(1) Imitates basic emotions (e.g. facial expressions)

(2) Recognizes basic emotions (e.g. happiness, sadness, anger) in videos or cartoons

(3) Recognizes basic emotions in close people

(4) Recognizes the reasons for the basic emotions in oneself (e.g. I feel ... because ....)

(5) Recognizes the causes for basic emotions in others (e.g. he feels ... because ....)

(6) Helps others when asked

(7) Recognizes when others need help

(8) Knows how to respond when others manifest common emotions and feelings (e.g. sad, happy, angry, in pain, sick)

Friendship (6 skills)

(1) Remains close to the peer/peers during a mutually enjoyable activity

(2) Activates and monitors the activities with the peer/peers when asked

(3) Allows the peer/peers to be involved in the activity

(4) Invites peers to join him in the activity

(5) Play with peers in leisure time outside school

(6) Recognizes friendly versus hostile actions towards others

Part 3. Communication skills

Section 3 deals with the repertoire of communication skills and communication competencies in three areas: basic communication skills, socio-emotional skills and basic conversational skills.

3.1 Basic Communication Skills (speech, sign language, AAC)

Expresses requirements (7 skills)	(1) Requires "more" (2) Requires attention (3) Asks for food, drinks (4) Requires items/toys (5) Asks for the favourite activity (6) Requires termination of activities (e.g. finish) (7) Seeks help
Basic answers (6 skills)	(1) Answers verbally to their name (e.g. what, please, yes?) (2) Answer the question "What do you want?" (3) Rejects objects (4) Rejects activities (5) Replies to greetings (6) Agrees/accepts (e.g. "Sure", "Alright", "OK")
Answering questions (6 skills)	(1) Answer the question "Do you want ...?" with yes or no (2) Answers basic “yes”/ “no” questions (Is this ...?) (3) Answers simple familiar “who” and “what” questions ("Who is it?" "What is this?") (4) Answers personal social questions (e.g. "What's your name?", "How old are you?") (5) Answers simple “where” and “when” questions (e.g. "When is lunch?", "Where is the book?") (6) Answer simple “why” questions (e.g. "Why do we need an umbrella?")
Commenting (8 skills)	(1) Comments on unexpected or funny things (e.g. Oops, Opaa) (2) Names objects/persons (e.g. comment what) (3) Emphasizes their ownership (e.g. my comment) (4) Names famous people (e.g. comments who) (5) Describes activities (e.g. comments on what they do) (6) Describes locations (e.g. comments where) (7) Describes features (e.g. uses adjectives) (8) Describes a recent past activity or event

Raises questions (8 skills)	(1) Calls for attention (e.g. calls someone by name) (2) Asks for information about an object (e.g. what?) (3) Asks for information about a person (e.g. who) (4) Asks for information about someone's actions (e.g. what is he doing ...?) (5) Asks for information with “yes”/ “no” questions (6) Ask for location information (Where is ...?) (7) Asks for information about time (When?) (8) Ask for information regarding reason (Why?)

3.2 Socioemotional Skills (speech, sign language, AAC)

Expresses basic feelings (5 skills)	(1) Requires a break when upset (2) Requires calming activity when disturbed (3) Shows the need to use their own way of calming and relaxation (4) Indicates when they are angry (5) Expresses when he/she is happy/sad
Expresses complex feelings (7 skills)	(1) Expresses affection/inclination (e.g. "I love you") (2) Expresses when they are calm/relaxed (e.g. "I'm fine/ok") (3) Indicates when they are injured/sick/tired (e.g. "I'm tired") (4) Expresses what they want/do not want (5) Expresses when they are proud (e.g. "I did it!") (6) Expresses when they are scared/nervous (e.g. "I'm scared") (7) Expresses when they are confused (e.g. "I don't know")
Prosocial statements (10 skills)	(1) Initiates social greetings (e.g. hello) (2) Requires affection or comfort (e.g. hugging, kissing) (3) Expresses a request to play with someone (4) Uses manners (thank you, I'm sorry) (5) Offers to share food/drinks/items (e.g. “Do you want some?”) (6) Use assertive language (“Go away!”, “Don't!”) (7) Expresses love and affection (8) Offers an apology (9) Gives comfort when someone feels sadness, pain, etc. (e.g. "Are you okay?") (10) Compliments others ("Nice", "Fine")

3.3 Basic Conversational Skills (speech, sign language, AAC)

Verbal reciprocity (7 skills)	(1) Initiates conversation by attracting the interlocutor's attention (2) Ends the conversation with appropriate routine words (3) Maintains a conversation by sharing information in the usual way (4) Clarifies or insists on something by repeating the message/words (5) Maintains the conversation when the interlocutor structures the interaction (6) Starts conversation in the usual way (7) Maintains conversation with the help of routine feedback (m-hm, a-ha, good)
Verbal topics (6 skills)	(1) Chooses conversation topics appropriate to the context (2) Changes topics (3) Transfers during the conversation, he is not the only one who speaks, but also leaves room for the interlocutor (4) Participates in conversations on topics outside its areas of interest (5) Requires clarification when needed (6) Maintains conversation with appropriate topics
Nonverbal conversation (5 skills)	(1) They are attentive and oriented toward the interlocutor (2) Maintains a natural proximity to the interlocutor (i.e. personal space) (3) Distinguishes between inappropriate touching during conversation (i.e. decent and indecent) (4) Modulates the volume of their voice according to the conversation context (5) Looks for/waits for confirmation from the interlocutor (eye contact, nodding, smile)

INTERVENTION PLANNING OF SOCIAL SKILLS DEVELOPMENT FRAMEWORK

Intervention is a cyclical process that contains several steps. Figure 3.1 illustrates the process of intervention planning with the following essential stages:

1. Assessment and monitoring
    - Recognizing critical developmental achievements and characteristics (social interaction, communication, behaviour and interests)
    - Determining the current level of functioning and needs
    - Monitoring of skills acquisition, possibility for implementation of acquired skills
2. Targeting and planning
    - Determining objectives according to the child’s prioritized needs
    - Designing an intervention plan

3. Teaching
    - Providing motivational activities for skills development
    - Implementing the intervention plan
    - Application of evidence-based practices

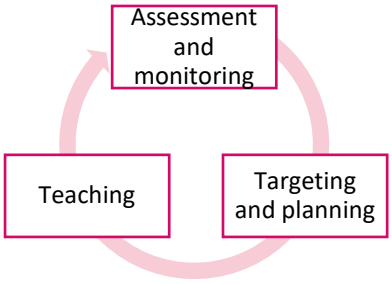

Figure 3.1 Stages in the intervention planning process

Intervention planning consists of several basic components that are implemented sequentially as systematic stages of intervention planning. It is the assessment of the current level of performances/achievements, prioritization of educational needs, setting general objectives, setting specific tasks as well as monitoring and measuring of progress. Figure 3.2 illustrates these systematic steps when planning an intervention.

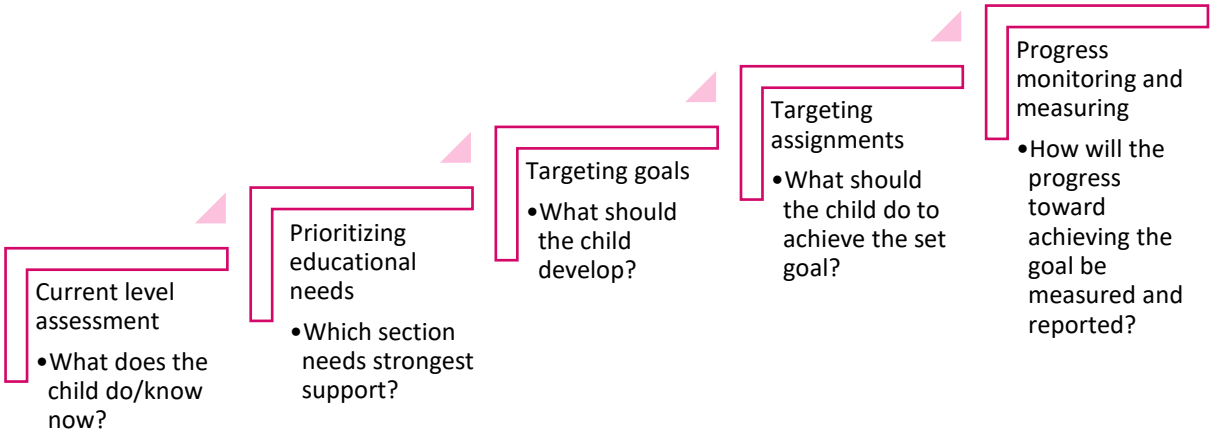

Figure 3.2. Systematic stages in intervention planning

DETERMINATION OF PRIORITIZED NEEDS

Assessment information provides a picture of the child's current condition. They are the starting point for the beginning of an intervention plan. This data is used in a flexible way, and the intervention plan is developed by a team that includes the child's parent. Fig. 3.3 outlines the basic questions that determine a child's current level of achievement.

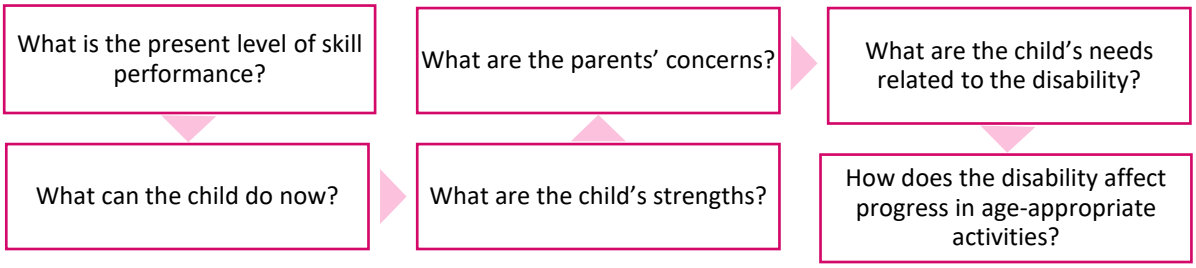

Fig. 3.3 Determining the child's current level of achievement

Based on the current level of the child, we decide which needs of the child should be prioritized, identify barriers, and determine which skills need to be taught. It is important to consider the following questions:

- ✓ What are the key needs of the child?
- ✓ What barriers have an impact on independence and quality of life?
- ✓ What are the child's ambitions for the future?

There is a wide range of possible social skills necessary for participation at home, in school and within the community, so it is necessary to choose functional skills based on the most critical and necessary needs. The following key questions can help the team make priority decision-making interventions:

- Is the skill important for the realization of the priorities and desires of the person and the family and the result they strive for?
- Is the skill necessary for the interaction and maintenance of emotionally significant relationships (e.g. involvement in and flexibility in age-appropriate play and activities?
- Is the skill necessary for effective and efficient communication (e.g. non-verbal communication system, speech, functional AAC system)?
- Is the skill important for improving the quality of life, independence and self-esteem?
- Is the skill necessary for the child to be involved in activities at home, at school and in the community (e.g. imitation, social initiation, social response)?
- Is the skill appropriate at the developmental level and age?
- Is the skill necessary for a person's health and safety? (e.g. skills related to self-care, health, disease prevention and accidents)
- Is the skill necessary for the child to be better organized and learn (e.g. to ask for help, to complete a task independently, to follow instructions in a group)
- Is the skill important for the prevention of a challenging behaviour (e.g. functional skills to replace challenging behaviour)?

Most often, a child has several needs from different areas, so priorities must be set. The intervention plan sets as many goals as there are times and opportunities for their adoption, improvement and generalization. Priority should be given to areas that have implications throughout a child's life. When making choices, those needs related to the child's safety always take precedence. For example, if a decision must be made between "expressing pain" and "initiating social interaction with a peer", the goal will always be to teach the child to express pain. Each intervention plan should directly lead to

positive results that are significant and, at the same time, family priorities and what is important to them should always be observed.

FORMULATING CLEAR, SPECIFIC AND MEASURABLE GOALS

The goals are based on realistic expectations of what the child can achieve over a period. They should also include criteria for achieving the goal, such as, to what extent we expect the child to demonstrate the skill at the end of a given period.

To be clear, specific, and measurable, goals must include measurable terms, words that signify action, be realistic, and be bound to a specific time. At least two specific tasks need to be specified for each purpose. Specific tasks can be selected from the propose list. These are achievements that define the individual steps to achieve the goal. In addition to the set goal, tasks should contain the following components: 1) conditions, 2) evaluation criteria and 3) measurement systems (Fig. 3.4 and 3.5). We recommend that each goal include at least two specific program tasks, which are selected from the list of social skills. Examples of socio-communication goals and program tasks are given in Figure 3.6.

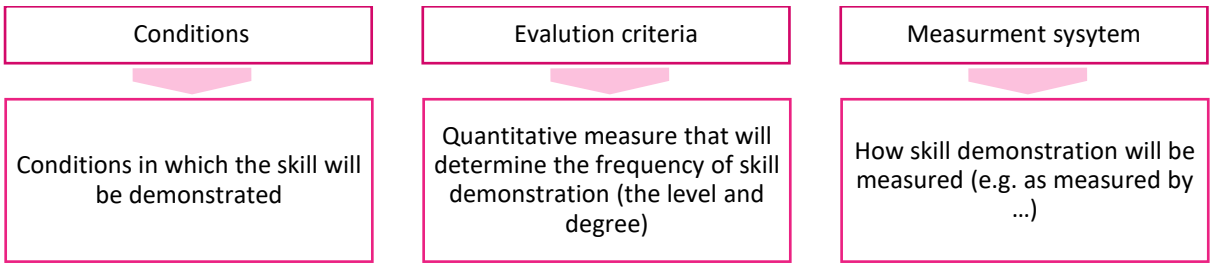

Fig. 3.4. Conditions, evaluation criteria and progress measurement system

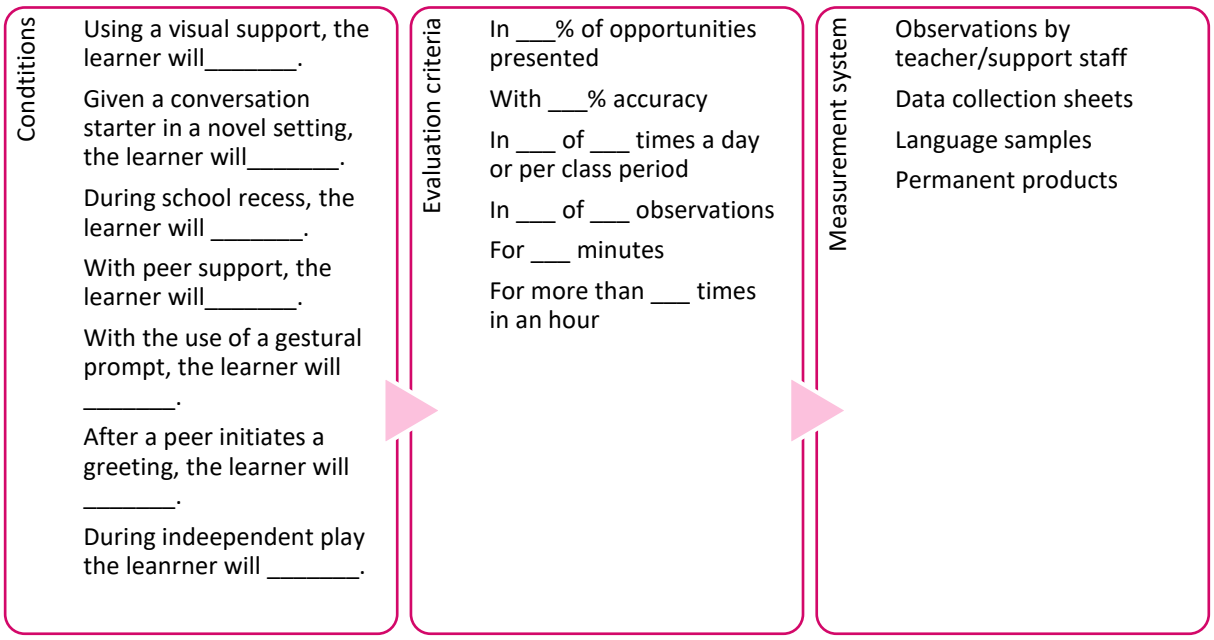

Fig. 3.5. Examples of formulation of conditions, criteria and methods of measurement

FRAMEWORK FOR IMPLEMENTATION OF PROGRAM TASKS AND OBJECTIVES

The framework for planning the intervention of social skills consists of a set of principles and guidelines for planning the goals of the intervention, i.e. the individual program.

Achieving optimal results

The goals and objectives in the plan should be functional and tailored to the child's age and development. When choosing skills, it is important that the child can use them for a long time and in different situations. In the field of socialization, in particular, it should be considered whether play activities that require creativity and imagination (symbolic play) are appropriate. Although these skills are a challenge for many children with autism, after preschool age they are no longer useful in social peer groups.

Area: basic skills

Goal: increasing nonverbal socio-communicative interaction.

- _____ replies when addressed by name, by stopping and looking at the person that calls them
- _____ looks at an object that is pointing toward another person
- _____ hands the object to another person to share it
- _____ shakes head to indicate "no"

Area: social skills

Goal: increasing skills for independent play

- _____ involves into a functional play with a single object
- _____ involves into a game with routine predictable scenarios
- _____ involves into open-ended activities (without determined end and beginning)
- _____ involves into imaginative, creative use of materials, different than their original purpose

Area: communicative skills

Goal: increasing basic communicative skills

- _____ asks for "more"
- _____ replies to "What's your name?"
- _____ replies to simple routine comments from others
- _____ will describe location

Fig. 3.6 Examples of socio-communication goals and program tasks

Choose skills that are present in peers

For a child to be accepted and able to adapt to the environment, he needs to develop skills and interests like his peers. For example, in preschool, popular toys associated with cartoon characters are often a signal of acceptance. While in school age, interests such as sports, video games and computers often signal acceptance from peers.

Increase spontaneity

One of the goals and/or tasks in the program can be the development of spontaneous use of the skill that the child shows only by encouraging him. Gradually reduce the help and encouragement.

Choose skills that increase the child's independence

Support the generalization of the child's skills. Encourage the child to apply the learned skills in different situations because, very often, children with autism will apply their skills only in one situation. For example, it may request objects only from adults, not from children; it greets back only when he is with his mother who encourages him to respond to the greeting; it plays alone all the time with the same activity; they ask for help only from one person, etc. Therefore, the intervention should not only focus on the number of skills, but also on their functionality and applicability.

BASIC SKILLS DEVELOPMENT FRAMEWORK

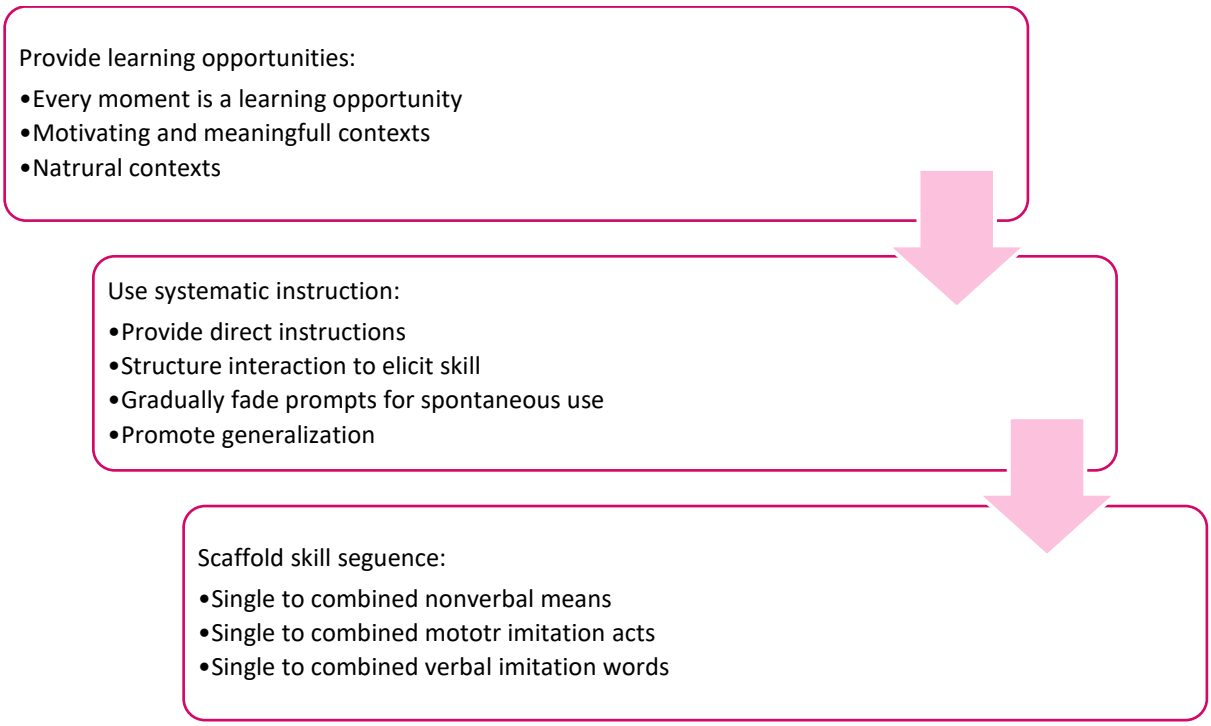

Fig. 3.7 Basic Skills Development Framework

Many children with autism spectrum conditions show difficulty in basic skills, so to encourage social and communication development, you need to start from the basics of social learning. To this end, it is necessary to consider the following principles: providing structured learning opportunities, applying systematic instructions, and providing systematic learning support.

Regarding the ability for nonverbal social interaction, the goals may include:

- Expanding the repertoire of nonverbal socio-communicative skills
- Expanding the ability to stay longer in nonverbal social communication
- Expanding the ability to combine two or more nonverbal social-communicative behaviours
- Generalization of interaction skills, with multiple persons, including adults and children
- Generalization of skills in different situations

In terms of motor imitation ability, goals may include:

- Imitation of procedures with objects
- Imitation of a series of motor movements with and without objects
- Spontaneously mimicking of movements in natural situations
- Applying motor skills in more new situations
- Applying motor skills in interaction with multiple different personalities

Unlike motor imitation, it is more difficult to have children involved in verbal imitation, so the priority goals in the field of verbal imitation include:

- Imitation of voices in a situation that strongly motivates the child
- Spontaneous verbal imitation in a familiar situation that strongly motivates the child
- Applying verbal skills in more familiar situations
- Applying verbal skills in interaction with more adults and peers

Independent game development:

- Focus on skills upgrading (from functional to creative play, from closed to open-ended type of activity)
- Consider the elements of the game in peers (e.g. duration, type of activity)
- Start with the child's interests and favourite sensory stimuli (Fig. 3.8 - Fig. 3.11)
- Update the repertoire of independent/ stand-alone activities
- Increase the child's level of attention and independence in independent play

Update the repertoire of stand-alone gaming activities.

Check whether the child is playing functionally or creatively and whether the game/activity is closed or open-ended. It is important to distinguish between indoor and outdoor activities. Closed-ended activities are structured activities that are performed in a functional way. The materials used have their specific purpose, the activity has a clear end and numerous materials and steps. The purpose of the closed type of activity is clear and predictable. Open-ended type of activities, on the other hand, are unstructured. They are performed in a creative way, the materials can be used in many ways, the end of the activity is arbitrary, there is no precise sequence of steps and the purpose of the activity is not organized or predictable. Appendix 2 includes ten categories of play and leisure activities, with suggested open and closed-ended activities. The first 8 categories are useful for building an independent game.

The type of support for developing independent play skills can be very different, depending on the individual needs of the child. Independent game skills include the ability to hold the attention for a certain period. If the child demonstrates social observation and social imitation skills, emphasize modelling as a teaching strategy. If the child does not yet have the skills to observe or imitate, and shows repetitive and restrictive play, emphasize structured teaching and systematic support. If the child has difficulty processing or understanding verbal information, limit the use of verbal instructions and use visual support. A detailed discussion of child support and teaching practices in the intervention for development of socio-communication skills is set out in Chapter 3.

Fig. 3.8 If the child wants to spin, provide spinning in the activities.

Fig. 3.9 If the child likes rotating objects, include toys that provide rotating.

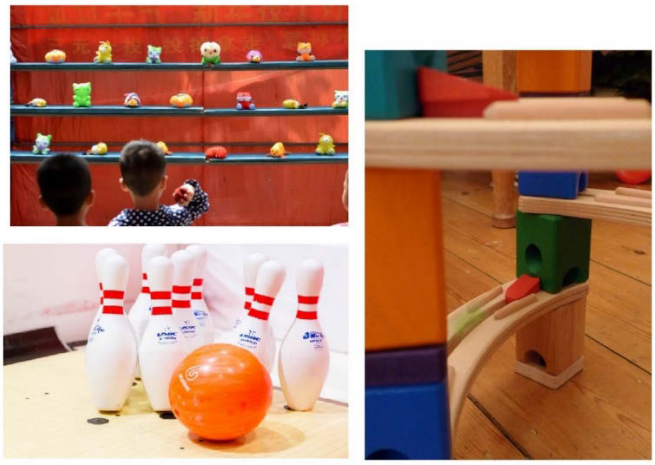

Fig. 3.10 If the child wants to see moving objects, include activities/objects that move

Fig. 3.11 If the child wants to produce sounds, include activities/objects with auditory elements

The child's level of involvement in independent play mainly depends on his motivation for play and how much they understand what to do with objects or materials/how to use them. Therefore, we use activities that are fun and important for the child, in order to increase their attention and independence. But very often it is necessary to teach the child how to use objects and materials and to increase the duration of the game systematically.

CHAPTER 4. EVIDENCE-BASED PRACTICES AND APPROACHES IN TEACHING

EVIDENCE-BASED PRACTICES

Evidence-based practices are specific interventions that lead to positive results for children with autism and have firm scientific foundation. It is recommended for practitioners to use this type of practices. In the realm of social and communication development, there are a number of practices that may be classified in three general categories:

- Behavioural interventions in which principles of applied behavioural analysis (ABA) in highly-structured conditions are applied;
- Developmental interventions, in which principles of developmental psychology in natural conditions are applied;
- Naturalistic interventions that apply a combination of behavioural and developmental approaches in semi-structured and/ or in natural conditions.

Evidence-based practices ought to be applied in a critical and flexible way of planning and implementing of interventions.

Each child with autism has its individual social and communication development. Therefore, it is necessary to adjust the interventions to these individual differences. All the professionals that work with children with autism need to completely comprehend the spectrum of evidence-based practices. Namely, the more different applicable practices they must work with, the more adequate possibilities of decision-making that are specific for each individual with autism.

Even though autism is a permanent condition, the timely and intensive educational intervention has an exceptionally positive impact on the development of children with autism. In order to contribute to the positive outcomes for children with autism, we should choose evidence-based practices that are appropriate for the child's specific needs.

When choosing the most appropriate approach in social intervention we should consider the following:

- There is no intervention that addresses the needs of all children with autism
- A person may need different types of approaches at a different age in life
- The team of professionals should choose approaches that support the child's inclusion in the environment and functional participation in natural conditions
- The team should simultaneously choose strategies that provide the greatest chances for acquisition, improvement and generalization of skills in the shortest possible time, in the most natural

(least restrictive) conditions and with the least support from adults (the smallest degree of encouragement)

For a detailed examination of the evidence-based practices established so far, see the report of the Institute for Child Development Frank Porter Graham in collaboration with the American National Centre for Professional Development for Autism Spectrum Conditions, which presents 27 evidence-based practices.

TYPES OF APPROACHES IN SOCIO-COMMUNICATION INTERVENTIONS

There are opposing considerations between professionals and scientists regarding what is the most appropriate way to support the social-communication needs of children and youngsters with autism. Two approaches were used in the past: Lovaas traditional behavioural approach (1987) and the Greenspan Developmental model (1992). The monitoring of their advantages and disadvantages has led to creating a naturalistic model of intervention (Schreibamn and co., 2015) which unifies both of the aforementioned models. In general, the following directions may be helpful when choosing the most appropriate approach:

- If the child with autism has not acquired the basic skills and/or studies best through a highly-structured individual support (one-to-one), it is recommended to apply the traditional behaviour approach
- If the child with autism has acquired the basic skill and/or learns best by taking an active part in the interaction with others, a developmental relation based on approach for learning new skills is recommended
- If the child with autism has the need for generalization and functional support of the communication skills, it is recommended to use the naturalistic approach

In addition, we will describe the most important characteristics of the traditional behavioural, developmental and contemporary naturalistic approach. We will look into several basic interventions i.e. strategies that are necessary for building an individualized approach in the interventions. Although the terms “strategy” and “intervention” are often used interchangeably, there is a need for distinguishing these two terms. Strategy is a set of methods or procedures for teaching certain skills. The intervention may include one or several strategies. But not all strategies are interventions. The main difference is in the fact that the intervention is formal, most often in the form of an individual program, directed toward the child’s defined needs and it is constantly monitored and assessed.

Traditional behavioural approach

The applied behaviour analysis (ABA) is based on the scientific principles of learning and motivating the behaviourist school and the interventions derived from these principles. Thousands of research studies, made in the last 40 years, confirm the ABA efficiency for people with different types of disabilities, in different conditions, for improvement of different skills and behaviour. ABA uses systematic procedures for estimation of skills and behaviour before, during and after the intervention itself, focusing on the learning of socially important, functional behaviour.

The behaviourist principle has a significant role in the interventions for children and young people with autism. There are many different interventions based on ABA, a great deal of the evidence-based practices are behavioural practices. These practices are used for teaching new skills through systematic instructions, change of conditions which manifest challenging behaviour through modification of the environment and increasing of the socially-relevant behaviour through the process of strengthening.

In the group of behaviourist evidence-based interventions, the following strategies are included:

- ABI (Antecedent Based Intervention) Intervention based on prevention,
- DTT - Discrete Trial Teaching/Teaching of separate stages,
- FBA - Functional Behaviour Analysis
- FCT - Functional Communication Training
- PECS - Picture Exchange Communication System
- Modelling
- Encouragement
- Strengthening
- Task analysis
- Time delay.

Too often, ABA has been misidentified with a strategy called Discrete Trial Teaching (DTT). The DTT was created by Ivar Ole Lovaas, a professor at the University of California, Los Angeles (UCLA), in the 1960s with the aim of teaching children with autism. This strategy is known as the Lovaas model of the ABA. With DTT skills, they are divided into separate sections and work one by one until the desired behaviour is obtained. This method is individual, one-on-one. It is taught in short, separate rehearsals (teaching units) that are repeated and followed by strengthening (rewarding) the desired behaviour/skill. This model emphasizes accuracy and organization during teaching, and adult control over the setting of the environment, i.e. the environment in which learning takes place. The following techniques are used in DTT:

- Encouragement - providing support in skill performance
- Chaining - strengthening of individual steps whose connection leads to the full skill
- Shaping - strengthening of a behaviour that is close to the skill that needs to be applied
- Direct rewarding (strengthening) in the emergence of the chosen skill that is being taught

ABA-based strategies should be part of the repertoire of any professional working with children with autism. But it is also important to understand that there are negative aspects to the exclusive use of a strict, traditional approach to teaching, especially for social and communication skills. Emphasis on specific predefined responses in adult-led interaction, as well as a limited understanding of skill acquisition, can sometimes hinder the generalized social application of the learned skill. When learning social and communication skills with the help of DTT or another ABA strategy, consider the natural environment, because the skills that children acquire in an unnatural situation (sitting at a table, in a room with minimal distraction) cannot always be applied in natural social situations as well.

The traditional behavioural approach relies on the assumptions that children with autism:

- Do not have enough social motivation
- Learn most effectively in a structured context
- Learn when the elements of activity are controlled
- Learn by repeating discrete skills

The following is a practical example of using a traditional behavioural approach - DTT - to encourage the use of the gaze, by teaching a skill - replying to one's own name.

The therapist organizes the working space by setting a table with two chairs to sit opposite the child. The therapist pronounces the name of the child as an order for making eye contact. To encourage the use of gaze, the educator directly introduces a specific intensifier (that motivates the child). The intensifier can be food (e.g. a small piece of cracker) or a material intensifier (e.g. a small train toy) that they introduce to eye-level to encourage the directing of gaze in that direction. When the child manages to make eye contact for a second, the therapist immediately gives them the intensifier. As the skill is acquired gradually, the therapists say the name of the child and uses time delay, i.e. provides brake before introducing encouragement with a motivational intensifier. During the whole time, the educator consistently uses positive reinforcement every time the child makes eye contact. After accomplishing contact of 1-minute duration, the entire procedure is repeated, while building a longer period of eye contact between the child and the therapist. (e.g. 2 seconds, then 3 seconds…)

Developmental approach

The developmental model stems from the principles of developmental psychology and the study of development. Interventions with a developmental approach emphasize the development of skills through active research and positive relationships - based on interactions. The model is based on the belief that children acquire skills through social interactions and through their own experiences. Examples of this approach include Floortime, created by Greenspan and Wieder. With Floortime, adults use meaningful interactions as a basis for teaching and learning to foster development. Adults engage children in those activities that are fun for children and follow the child's lead in starting and ending the interaction. The developmental approach also applies to parent-implemented interventions as evidence-based practice, in which parents are trained to provide individualized intervention to their child in order to enhance skills and/or reduce challenging behaviours in the home and/or community. These types of models emphasize 1) the use of natural situations as a learning environment, 2) balancing leadership between the adult and the child, in activities, and 3) encouraging development. The developmental approach assumes that children with autism:

- Have ability for social and emotional flexibility
- Learn by being actively involved in natural situations
- Learn through reciprocal social interactions

By applying the developmental approach, the child with autism takes an active, not passive part in the processes. The social communication partner can follow the child's lead or to be a guide in the child's

development. This approach develops skills that are the basis of social development (e.g. joint attention), as well as skills that are necessary to provide a basis for learning a wide range of other key skills (e.g. imitation, social engagement). This approach emphasizes the role of social interaction as a place where imitation develops and the basis of social and communication skills. The responses of others to the child's initiatives and interests lay the groundwork for this developmental approach. All behaviours are intentional and meaningful. The explanation of why this approach is useful for fostering development is based on the belief that the basic learning process is the same for everyone, so that children with autism can also learn in natural conditions (natural context).

The following is a practical example of how this approach has been used in order to use eyesight during activities that occur naturally in a cooperative game. The disadvantages of this approach in working with children with autism refer to open-ended instructions (as opposed to structured instructions). Children who have difficulties with basic skills, such as attention and imitation, or who have severely restrictive, repetitive, and challenging behaviours may not be comfortable with this approach.

The mother and the child are in the playroom. They are playing with a ball. She looks at their ball for a minute and then gets involved in the game when she will naturally receive the ball that the child throws. She holds the ball close to eye level in order to provoke the use of her child's gaze. When the child looks at her, she throws the ball with her hand toward him. She gives him a specific time frame for playing with the ball. Then she opens her arm making gestures to the child to throw the ball to her again. When she receives the ball again, she repeats the same steps of activity. The mother continues to be socially engaged with her child through this simple and motivational order of activity.

The intensive interaction is an example for intervention in the framework of the developmental approach which is used for fostering social communication skills in children with low functional communication. This intervention responds to the needs of children who are on a pre-verbal level, have difficulties in social communication behaviour or have a stereotypical or self-stimulating behaviour. With the intensive interaction, nonverbal precursors of communications are being taught, based on the natural conversation between the mother and the baby. This intervention encourages the development of skills like eye contact, facial expression, voice imitation and joint attention. It takes place at a level that the child can understand and engage with. This is achieved by monitoring the child's leadership and imitating his behaviour, facial expressions, and voices/sounds. When the child receives attention, a series of interactions are being built, which are upgraded over time. During the interaction, the child learns the basics of communication and social interaction:

- communication intermittency (receiving response/reaction and responding/reacting);
- understanding and using facial expression, body language, gaze, alternation and vocalization;
- joint attention, and
- joint focus activities

Most importantly, in the process of intense interaction, a person learns that it is nice when they are with other people, and that other people enjoy being with them.

Contemporary naturalistic approach in interventions

The modern naturalistic approach unites the strengths of the behavioural and developmental approach. It uses interventions to enhance social and communication skills in children with autism by combining useful strategies from the two previously described approaches.

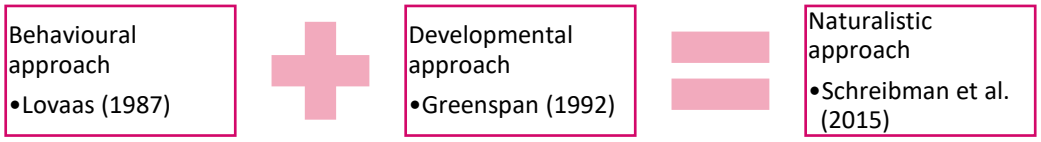

Fig. 4.1. Naturalistic behavioural-developmental approach

Modern naturalistic interventions use the principles of AVA. Some naturalistic interventions provide clear instructions for obtaining a specific response from the child, while others involve careful arrangement of the environment in order to make it easier for the child to begin to interact and respond appropriately to the environment. The naturalistic approach includes:

- Setting specific goals and objectives;
- Promoting the level of motivation and interest in the child;
- Using age-appropriate activities;
- Using guidelines and incentives systematically; and
- Emphasis on significant interactions in the context of structured, organized learning environments with adults who build skills flexibility.

The following is a layout of a practical example of a naturalistic procedure for encouragement of the skill of using the gaze i.e. establishing eye contact by applying a combination of behavioural and developmental procedures.

In the natural surroundings of the family home, the parent begins a motivational and simple activity. The father starts a tickling game. He introduces a predictable connection between the behaviour i.e. the targeted skill (eye contact) and a reinforcer (tickling). When his daughter makes an eye contact with him, he immediately reinforces that behaviour with tickling (natural reinforcer). He connects the reinforcement (tickling) with the child's behaviour (eye contact), and does not tickle her until she uses gaze. He includes behavioural strategies such as encouraging (initially says her name every time and then gradually omits it) and reinforcement (tickling) in order to support skill acquisition. When the eye contact is used constantly and without encouragement (calling by name), the father introduces a second skill (using gaze to follow the gesture of pointing) that needs to be developed in the same motivational activity. As his daughter begins applying the separate skills in the framework of this activity, he continues to use the reinforcing activity to further expand the communication, the complexity of skills, social requirements and/or the number of sequences in the framework of the routine. For example, the interaction is being developed in a play in which she imitates her father who touches a part of the body (e.g. nose, eyes, mouth), then he tingles her and then they perform a "high-five" - constantly expanding the social interaction.

Naturalistic approaches assume that children with autism:

- Learn and apply skills better when taught in natural conditions
- They are motivated to learn when the activities they love are being used
- They prefer to be active in communication rather than being constantly guided by someone else
- They prefer rewards that are naturally related to the activity than artificially unrelated rewards (e.g. when a child says "train", he gets a toy train as an amplifier, with which he can play, instead of reinforcing the correct answer "train" by giving food).
- They increase their self-initiative and spontaneity when these behaviours are being strengthened.
- They respond well to different behavioural strategies for teaching adequate developmental skills.

Modern methods allow us to strengthen the skills in natural conditions and encourage social development. These interventions are included in the child's daily favourite activities and thus the child is motivated to learn. The approach involves using the skills learned in multiple areas and in different situations. Construction begins gradually, from one area and application of the skill in one situation. This skill is being upgraded to expand in other areas and used in many different situations. For example, the child first learns how to communicate in a home environment, and then by upgrading this skill he learns how to socialize in other environments. All interventions are made within the daily activities that are inherent in the child and various materials are used and more people are involved. The child learns during a meal, bath, play and it includes all family members and the various materials that exist in the home. The goal is for the child to then use these skills outside the home, with other people.

Naturalistic interventions encourage the development of basic skills on which the child's overall development depends. Examples include imitation and joint attention. The success of the application of an approach depends on the assessment of needs and is based on the individual characteristics of each child.

INTERVENTION APPROACH CHOICE

When choosing intervention approaches, the individual characteristics of the child, the level of motivation, attention and the level of organization of the child's learning in different environments are important. Once the appropriate approach has been chosen, it needs to be constantly monitored and changed whenever there is a need for changing. It is considered that the combination of the previously described approaches has an effect and depends on the goals of the intervention and social situations. The strengths and weaknesses of each of the three approaches should be considered and this ought to be a starting point when choosing an intervention approach. The success of any intervention lies in the ability to develop new skills and apply them in different contexts, such as situations, environments, with different people. It is necessary to remember the following points when choosing interventions to support social and communication development:

- Prioritize the use of evidence-based practices in interventions.
- Intervention approaches can range between behavioural principles, through developmental principles, to naturalistic principles, which are a combination of developmental and behavioural principles.

- In each case it is necessary to define what is a successful intervention. For example, in socio-communication development, successful intervention will enable the child to spontaneously use social and communication skills in familiar and new situations.
- It is necessary to constantly monitor the procedures that are applied. Interventions that have had positive results in the past do not necessarily have to be used in the present.

Above all, remember that autism is complex. What is most efficient for improving the socio-communicative competences of the individual may change in time, depending on the social context, the skill that is being learned or the current needs and goals of the person.

TEACHING SOCIAL SKILLS

CREATING TEACHING POSSIBILITIES

Planning the optimal opportunities for teaching social skills involves organizing the learning environment and selecting specific learning activities. The social environment, the environment and the activities can be organized in a way that leads to the best results in learning.

Social Context

Depending on the set goals or targeted skills, there are several helpful tips on how to decide on the most appropriate social environment (i.e. one-on-one, small group or large group) and choose social partners (adults or peers) for social-communication intervention:

- If the goal is to participate in social activities, first introduce the skill individually - one-on-one, with an adult. After the initial acquisition of the skill, practice it in activities with a peer partner, and then apply the skill in group activity. The adult will initially have the role of a social partner, and gradually as the child acquires the skill, they will support the child to interact with peers.
- If the goal is communication, first organize the initial interactions with an adult to adopt the skill. Having first acquired the skill with an adult, practice it with a peer partner, and then practice the skill in different social contexts (in small and large groups). The adult will initially have the role of a social partner and, gradually, as the child acquires the skill, he will support the child to interact with peers.

The unwritten social rules that exist in group activities are a challenge for many children with autism. Their ability to participate and learn new skills in social or group activity can be determined by two key factors: social predictability and communication expectations. The level of clarity and social predictability within the activity or environment should be considered when planning teaching opportunities:

- If the child needs clarity regarding social expectations (what to do), adjust the activities so that everyone in the group would do the same thing at the same time with a minimum of waiting or with no waiting in line at all. Make sure the child with autism has their own set of materials.
- If the child understands what is being asked of him to do, but seeks support to take his turn (someone to look at), structure the activities to increase the level of predictable turn-taking in the activity,

Expectations in communication also vary within social or group activities. Language comprehension is required to participate in some activities, while other situations do not require language comprehension to participate. Review the goals set for communication in the activity in relation to the communication and language skills of the child.

- If a child with autism has difficulty understanding the language, choose activities in which it is not necessary to understand the language to participate, although speaking occurs (i.e. during a snack). Make sure the child knows what to do before starting to communicate with the environment.
- If the child has language comprehension skills and understands what to do, choose activities that require discussion for the child to practice communication skills.

The presence or absence of basic skills largely determines the approach to social intervention. Always consider the data from the assessment of socio-communication skills, to determine to what extent the child shows joint attention and is able to imitate a series of motor and/or verbal actions in natural contexts.

- Absent basic skills: If there is no joint attention and imitation, the intervention must include more highly structured activities, better organization of the physical environment, more activities directed by the adult partner and clearer directions.
- Mastered Basic Skills: If joint attention and imitation skills are present, the intervention may include less structured activities, more group activities for turn-taking, and greater use of modelling - imitating adults and peers as role models.

Organizing the environment

The optimal circumstances for learning a new skill will depend on the set goals, the environmental factors and the individual characteristics of the child. See Figure 4.2 for an overview of the different levels of environmental structuring, in terms of intervention approach, and the level of present attention-distractors.

Social environment	Level of ditractions	Level of ditractions
•Structured •Semi-structured •Natural	•Behaviourist •Behavioural-developmental •Developmental	•Smallest •Medium •Largest

Fig. 4.2. Levels of environment structuring in relation to intervention approach and level of present attention distractors

In determining the most appropriate environment for learning new skills, consider the following important aspects:

- Sensory sensitivities: If a child with autism has difficulty to participate due to increased sensory sensitivity (e.g. noise-sensitive), organize the environment to have less effects of this type (e.g. a quieter environment). Choose an environment in which the child is calm, organized and manages to control himself.

- Anxiety: Make sure the environment does not cause the child anxiety. If the child engages in restrictive or repetitive behaviour or experiences anxiety, prepare a more structured, predictable environment. Whenever possible, identify the environment where the child does not show limited and repetitive behaviour.
- Challenging Behaviours: If challenging behaviours occur in a child, organize the environment so that challenging behaviour is kept to a minimum or completely prevented. Whenever possible, identify an environment where challenging behaviour is less likely to occur during social and communication skills training.
- Social motivation: If the child sees, imitates, and is involved in peer activities, use peers as role models to motivate the child to learn.
- Joint attention: Examine the child's ability to engage in interactions with adults and peers in structured, semi-structured, and natural conditions. Choose an environment to adopt new social and communication skills in which the child shows joint attention.
- Imitation: Examine the child's ability to imitate the behaviour of one or more adults and peers in structured and natural conditions. The presence or absence of imitation will determine the level of structure needed to learn new skills. When imitation is present, the child can engage in different learning environments.
- Organization: The organized person is calm, maintains attention while involved in various activities, starts communication on his own and makes changes. Information on the child's level of organizational skills can be obtained from the assessment. Organizational skills depend on the individual characteristics of the child and the environment. In some environments, the child is unable to demonstrate his or her organizational skills. For example, it may depend on the number of people in the area. The child may need additional support in order to demonstrate his or her organizational skills in a particular environment. Organizational support is discussed in detail in Chapter 7.

Open and closed-ended activities

Social activities can be of a closed or open-ended type. In general, closed-ended activities have a clear purpose, organization, and product, i.e. a clear beginning and end. In contrast, open-ended activities generally do not have specific rules, allow creative use of materials, do not have a specific sequence of events, and do not include a final product. Activities that are unpredictable or open-ended can be confusing for children with autism and are often not the best opportunities for developing social and communication skills. Children with autism differ in their ability to participate in outdoor activities. The presence or absence of basic skills, especially joint attention, imitation and organization directly affects the success or difficulty of the child in the open-ended type of activity. It is necessary to think carefully about the basic abilities of the child when determining whether a certain open or closed-ended activity is feasible and whether it is an opportunity for social interaction and improvement of communication. All activities, open or closed-ended, can be organized differently to increase predictability.

Motivational activities

Motivational activities can be defined as activities that have a purpose and significance for the child, in which there is a highest probability of social interactions. Motivation is certainly related to the child's personal interest, but it is also related to understanding the purpose of an activity. When a child

with autism understands what to do in a situation, the likelihood of communicating with others increases. Social understanding or understanding of how to interact with others is also naturally related to motivation. Understanding the intentions and behaviour of others is part of the challenges that are common to children with autism and affect their motivation to participate and engage in social activities. Thus, motivation is influenced by the type of activity, social partners and the complexity of social interaction. The intervention plan should include types of activities in which the child is most successful as opportunities for building social and communication skills.

The child's interests reflect what is important to the child. Therefore, the motivation and interests of the child should be constantly evaluated, and a behavioural profile of the child that contains information of the motivation, as well as the social partners with whom the child most often interacts should be developed. This information is important to recommend activities that will be tailored to children's interests and increase motivation.

Think about:

- Including the interests and the inclinations of the child in the social activity
- Using the individual game and interests as occasions for social interaction with others
- Using social activities that the child has mastered with an adult partner as possibilities for interactions with peers
- Combining new activities with the desired objects or people as a way of strengthening the motivation of the child.

It is important to make a difference between the repertoire of individual motivators of the child and his obsessive interests. Sometimes, the child’s obsessive interest may be motivational learning opportunities but not always. The obsessive interests may be used as a mitigating circumstance for acquiring new skills and learning and to implement these in various activities if the child can: 1) share its strong interest with the others in a flexible way and 2) without difficulty cease the activity related to intensive obsessive interest

However, caution is needed for using the special interests as a part of the intervention plan. In addition, there is a practical illustration of the positive and negative results of the use of special interests as motivators for children with autism.

Robert is fascinated by robots and constantly talks about them. The teacher uses his intense interest in positive ways, rewarding him with stickers for the completed tasks. She organized a daily task for Robert and another peer to draw a picture and write a story for different types of robots. Positive reactions occurred while Robert and his peers were working on these projects. By the end of the school year, the class presented a robotic encyclopaedia.

Doni is interested in machines that dispense small articles such as food, drinks, or cigarettes when a coin or token is inserted, i.e. vending machines and he constantly talks about them in school. Initially, Doni was given the opportunity to fill in the vending machine with tokens together with a friend, however, he started becoming increasingly worried and occupied with this activity while he was waiting for the next time to do it. Doni's impossibility to control this obsession resulted in a dramatic increase of his absence in the classroom due to the vending machine and if he received a ban, the situation escalated with screaming in the classroom. Therefore, the access to the vending machine and the discussion about it needed to be eliminated. A sign "NO ENTRY" was attached to the room with the machine and a new behaviour-reward agreement was designed for Doni.

CLEAR AND SYSTEMATIC INSTRUCTIONS

In this part, systematic instructions and three basic behavioural strategies are summed up: cues, amplifiers and consequences. Children with autism encounter difficulty when they need to understand and interpret verbal and nonverbal information and very often, they focus on unimportant aspects in the social environment. Therefore, it is important to use clear instructions, cues, amplifiers and rewards (reinforcers).

Systematic instructions

Systematic instructions are clear, concise, unambiguous, and specific. They provide direct guidance for learning new behaviours or skills and include the systematic application of cues, amplifiers, and reinforcers. When using systematic instructions, it is necessary to define the goal and to teach it directly, to systematically guide the child through the application of the skill, and to support the practical application until the adoption and generalization is achieved.

Systematic use of signs

Signs are visual, auditory, tactile or any other response/reaction/behaviour. Signs can be environmental or social and can be natural or intentional. Natural cues of the environment are all the things in the physical environment that trigger the response. For example, the marked curb of the sidewalk signals us that we should stop before crossing the street. In order to respond appropriately to natural signs, we need to look at the environment, notice what is relevant, and understand the meaning of natural signs. Properly responding to relevant natural signs and understanding their meaning is a challenge for many children with autism. In the previous example with the sidewalk curb, a person with autism who does not stop before crossing the street may not notice the curb, may not understand the purpose of the curb, or may not understand what to do on the sidewalk curb. Adding a pedestrian traffic light to the street is an example of a specifically created, arbitrary sign from the environment that helps to respond appropriately to relevant information and understand the meaning of the physical environment. Children with autism often benefit from the use of added signs in the physical environment. Natural social cues include everything a person does or says that triggers a response, including words, gestures, touch, and facial expressions that occur during natural interactions. In order to respond to natural signs, it is necessary to pay attention to others, to notice what is relevant and to understand the meaning of the presented natural social signs. Children with autism may have difficulty to pay attention to others and understand their meaning. They find it difficult to pay attention to

multiple social signs at the same time and to understand the intention and meaning of the interlocutor's behaviour. Added i.e. unnatural social cues are all the adjustments to words and activities to increase a person's social attention and understanding of social meaning. Examples include the use of exaggerated facial expressions, gestures, and voice modulation to add drama to the speech in order to attract the child's attention. Precise, systematic use of environmental and social cues is a basic strategy to be used during intervention and natural interactions. The child's ability or difficulty to focus on relevant natural signs always determines whether more noticeable added environmental and social signs should be provided.

Ethan is walking down the school corridor to deliver a message in the office. A group of students is walking toward him. Instead of bypassing them, he walks straight through the group, bumping into the children. It seems that he was not aware of their presence. He did not respond appropriately to the relevant social signs in the situation.

Amar's attention gets easily distracted even in the most structured social contexts. Even when the physical surrounding and the activities are organized for play, Amar still loses attention. The additional use of amplifiers has a minimum efficiency on him. However. Amar's ability to focus his attention on his activity (play) was significantly improved when the verbal was eliminated from the social context and he could focus only on one relevant sign (i.e. his toy). Now, he has a difficulty in paying attention to several signs at the same time.

Systematic use of amplifiers

The amplifiers follow the cue and help the child understand the meaning of the social context and to respond appropriately. Like cues, amplifiers may be social or environmental. The five general types of amplifiers, hierarchically arranged from strongest to weakest include:

- Physical amplifying: manual support (for e.g. hand leading) that provides appropriate and correct response/behaviour
- Gestural amplifying: gestural support (for e.g. touch) that provides appropriate and correct response/behaviour
- Verbal amplifying: auditive support (for e.g. speech, verbal instructions) that provide appropriate and correct response/behaviour
- Modelling: demonstrating the correct response
- Environmental amplifying: visual support that leads the person toward appropriate and correct response/behaviour

The choice over the most optimal amplifier depends on the presence or absence of two basic skills, the ability for joint attention and the ability to imitate:

- If the child demonstrates joint attention and imitation, it is appropriate to use modelling together with visual amplifiers, as needed.
- If the child shows joint attention and imitation, it is appropriate to use physical, gestural, or verbal encouragement along with visual cues, if needed.

When choosing triggers, the tendency for the so-called "addiction" of amplifiers may occur in some children. Encouragement “addiction" is a condition in which a learner learns a skill only when the amplifier is present, the child has difficulty applying the skill without being encouraged by the adult. This phenomenon is common in teaching children with autism. However, the degree to which this rigid combination of signs, instructions, and responses occurs is different for each child. However, the systematic application of amplifiers must be guided by the following principles:

- Use the smallest and the least intrusive support needed for an appropriate response.
- Introduce different amplifiers, after the initial acquisition of the skill.
- Always combine verbal with gestural or visual amplifier at the same time.
- Provide optimal support to the child by gradually replacing the less intense amplifiers according to the hierarchy, which ensures success, eliminates routine error patterns and addiction dependence.
- Maximum use of visual amplifiers to remove dependence on social amplifiers.
- Provide enough amplifiers to enable success or learning without mistakes (for example, if a child plays with plasticine and starts putting it in his mouth, encourage the proper use of the material)
- Be aware of the effect that physical stimulation can have on children with sensory sensitivity
- Give the child time to process and respond to the amplifiers

Angel is playing the board game “Ludo” together with a friend. Although he has learned the game, he still needs verbal amplifiers for every step of the game. If an adult does not encourage him verbally, he encourages himself by saying, for example, “Angel, throw the dice”. For Angel, the encouragement is learned as a part of the sequence of events that occur during the game and he is not able to continue as long as he is not given verbal directions. In order to overcome this addiction, the educator started to combine the verbal encouragement with physical encouragement. By hand holding, the educator encourages Angel to point toward the visual list with illustrated game rules, while verbally encouraging him at the same time. The educator gradually reduced verbal and then physical encouragement. This encouragement resulted with Angel individually using the list of game rules as a reminder and this provided him independence in the game with his friend.

Consequences and reinforcers

The consequence is an event, of an environmental and social nature, that occurs as a direct response to the behaviour. The model of traditional behaviourism relies heavily on the use of consequences in the form of material or social reinforcers in response to the child's behaviour. An example of this is rewarding proper behaviour by giving material reinforcement (food) or social reinforcement like "Bravo". Material amplifiers are usually not related to the child's activity or the significance of his or her communication efforts. Research shows that strengthening and differential strengthening of alternative, or other behaviours are effective practices in the field of autism. Differential reinforcement of alternative behaviours means strengthening the desired behaviour by ignoring inappropriate behaviour.

Since social behaviour is closely related to social motivation and interests, we should also encourage social behaviour with motivation and meaning, rather than with artificial rewards. Because of this, the

basic principle for effective reinforcement involves using natural reinforcers as much as possible. Other strategies include:

- Creatively insert material motivators into the activity itself, instead of using them as reinforcers to complete the task; for example, instead of rewarding the child with his favourite train after completing the activity, turn on train stickers as part of the activity or create a train collage or paint a picture of a train.
- Connect the verbal amplifiers naturally to what the child is doing now. For example, when a child correctly uses a verbal request for “more cookies,” instead of rewarding him or her with praise like “You are speaking well,” use verbal praise in the context of her request, such as: “Yes! More cookies! Delicious!"
- Plan your activities so that the children's success in the social activity is the natural reinforcer.

ORGANIZED INTERACTIONS

Understanding communication intention

Interpreting the intention and function the nonverbal and verbal behaviour of a child with autism is sometimes a real challenge. Sometimes, nonverbal and verbal behaviour have a social-communicative function, and sometimes these are not interactive behaviours. These are moments when a child's nonverbal behaviour and verbal messages function as non-interactive, self-stimulating repetitive behaviour, or as a means of self-regulation. Even when the child's behaviour is communicative, it is possible that there is a mismatch between what the child is saying and what is being said. Case study: Challenges related to the interpretation of intent behind the nonverbal and verbal behaviour faced by children with autism.

The nonverbal behaviour of Emil is interpreted in a wrong way. For example, he expresses desire for food or objects by looking intensely at the subject that he wants. When this intensive gaze is not interpreted by others as a request, he starts to cry. Emil lacks a repertoire of nonverbal skills that is needed so that he would be easily understood. Namely, the ability to use gestures that attract attention or to transfer the gaze from the object to the adult in order to express request.

Laura uses delayed echolalia for different communicative functions though her intention may be easily interpreted. Until her education team learned the deliberate meaning of her messages, Laura was often frustrated because others did not understand her. For example, Laura would say “Are you okay!” with an anxious tone in order to ask peers to leave. That message implies to the fact that Laura is upset and stands for an echolalic reproduction of the question “Are you okay?” which is addressed to her by others when she is upset. In case her messages were wrongly interpreted by her peers and they did not leave, she would constantly repeat the same message and start yelling at the end.

To support the child's social success, it is important to determine the communicative intent and function of verbal behaviours. The intention can be assessed according to the social context and the non-

verbal behaviour and affective state of the child before, during and after the transmission of the message. In general, we can conclude that verbal and non-verbal messages have a social-communicative function when two or more of the following qualities are present:

- Eye contact, orientation (body posture) or a gesture towards a person
- Behaviour/message is relevant to the current activity or conversation
- The child is waiting for an answer
- Even when the message is misinterpreted or misunderstood, the child does not give up in order to express what they think or want

Implementing routine reciprocal social interactions

The interaction between the child and the adult is the first framework through which the child learns the language and the way of communication. Reciprocal social interaction occurs between two people, in a situation in which they exchange important information in a verbal or non-verbal way. By repeating the interactions, children build social routines through which they learn social and communication skills in an organized, predictable, targeted way. This way, the child gains experience and gives meaning to language and behaviour during communication. Over time, these behaviours may anticipate or bring some new meaning or behaviour into the communication. The more often a child interacts, the more his communication expands and enriches. This will allow him to engage in other interactions in the future.

Betty learns how to imitate procedures in play. More precisely, she learns how to imitate a sequence of chained activities, one by one, with using a plasticine: 1) To press the plasticine 2) To use the cookie cutters and 3) To roll plasticine back and forth. When Betty acquired the first step, her educator added a second and then a third. All the activities that Betty imitates are linked in a meaningful way. The play became a logical sequence of the imitated activities that have a meaning. This process contrasts with teaching imitation of a sequence of unlinked individual actions with materials out of context.

Leon and his mother sing a song with dolls. When the song is over, Leon and his mother alternately put the dolls in the box using set phrases. The mother says, “The doll enters”, putting one of the dolls in the box, waving goodbye and saying “Goodbye”. Then it is Leon’s turn. The mother has encouraged Leon through gestures to put the other doll in the box, to say: “The doll enters”, to wave to it and say “Goodbye”. Then it is Leon mother’s turn again. Then she encouraged Leon to say, “In this box we put _____” and put the doll in the box. Leon looked at her and said: “Doll”, and then imitated the waving and said: “Goodbye”. After his turn came again, Leon spontaneously tried to put the doll in the box. The mother waited before she had waved, and Leon spontaneously smiled at her saying: “The doll enters, goodbye.” After this basic social routine was implemented, Leon’s mother kept on expanding the game by adding a new phrase. The phrases were connected to their actions and were organized for systematic teaching of waiting for your turn.

For Gorjan, the time for reading is an opportunity to get involved into a conversation. He swaps with his therapist and each of them describes a page of the book. Gorjan's therapist describes the first page, Gorjan describes the next page etc. The complexity and the variety of comments are connected to the actual language repertoire of Gorjan and attempts are made to build new functions for commenting in his repertoire. This process stands in contrast to the teaching of the skill for responding to questions related to the book, expecting the child to give specific responses to the questions prepared for every page. This kind of technique encourages passivity and encouragement addiction, but Gorjan learned how to be spontaneous and flexible through an interactive routine.

CHAPTER 5. SUPPORT FOR SOCIAL SKILLS STRENGTHENING

Children and young people with autism face a daily world of social confusion, communication difficulties and sensory sensitivity. At the same time, children may exhibit repetitive behaviours and often feelings of anxiety. The approach to teaching and intervention should be based on understanding the child's challenges and certainly include the use of compensatory support. The type and level of support may vary, but it should compensate for social and communication challenges, support the development of social and communication skills, and eliminate the causes of challenging behaviour. In this chapter, we discuss four types of adjustments and support:

Organizational support: When a child with autism faces challenges during the transition from one activity to another or difficulties in understanding language and social significance, the organizational support provides greater structure and clarity. Organizational support may include physical landscaping, clear visual boundaries and labels, activity schedules, and a different seating schedule.

Social support: When a child faces challenges in social skills, social understanding or social interaction, social support is needed to acquire these skills. Support for customizing and/or clarifying the social environment may include social scripts, social narratives, and video modelling.

Communication support: When a child has difficulty with speech, language or communication, the communication support can help them understand the language and acquire communication skills. Support for adjusting and/or clarifying social communication may include visual support, communication boards, conversation books, and other alternative and augmentative communication systems.

Behavioural support: When the child shows limited and repetitive behaviour, behavioural support can help reduce the challenging behaviour associated with health difficulties, anxiety, unusual sensory sensitivity, or social comprehension challenges.

ORGANIZATIONAL SUPPORT

Considering that many children with autism focus on physical detail to understand their surroundings, one logical way to support their understanding and success in the social world is to provide organized environment.

ENVIRONMENT AND PHYSICAL SURROUNDING ORGANIZATION

The information in this section is based on the so-called structured teaching, which is a set of principles and techniques developed at the University of North Carolina - Chapel Hill.

The basic elements of structured learning are: organizing the environment in a way that is comprehensible for the child, 2) using visual skills as strengths to complement weaker skills, 3) using the child's special interests, and 4) supporting self-initiated meaningful communication.

One goal of organizing the physical environment is to reduce the behaviour that occurs when a child with autism experiences sensory overload as a result of his or her sensory sensitivity. Every aspect of the physical environment needs to be organized in order to minimize sensory challenges (e.g. auditory, visual, tactile) and distances. Sensory strategies include providing headphones to reduce noise, strategically placing the school desk to reduce visual distractions, and using soft seats for increased comfort.

Another goal of organizing the physical environment is to clarify expectations and reduce the child's need to rely on social information to make decisions. Strategies include: 1) marking clear physical and/or visual boundaries in the environment; and 2) creating rules, procedures and routines to clarify what is expected in the physical space.

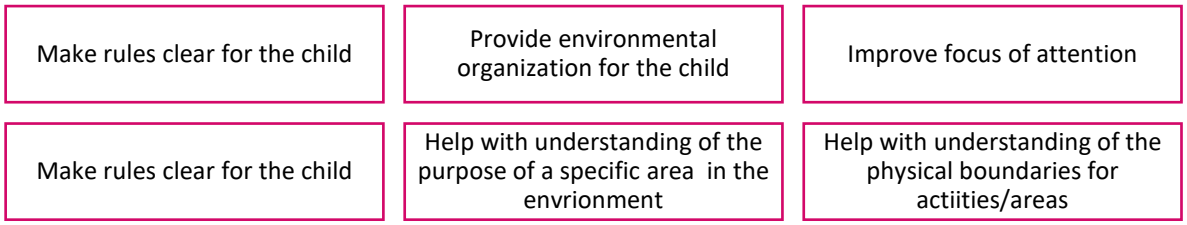

Fig. 5.1 Benefits from a properly structured environment

Do not underestimate the importance of structure in the physical environment. Before introducing visual support, one should prepare the environment.

MARKING PARTS IN SPACE, SETTING BOUNDARIES AND LABELS.

Clear labelling and marking of classroom areas helps to provide information about what is happening in each space and to establish clear boundaries. Bookcases or something as simple as sticky tape on the floor can be used to create areas for each activity. Structuring the environment for the child with autism involves giving information that answers questions about who, what, when, where and how. These aspects of organization can be embedded in all social activities. Organizational support is used in the physical environment for the following purposes:

- Clarify expectations
- Increase attention to relevant details
- To increase intentional activity
- To increase independence
- To increase the ability to observe others
- To increase social interaction
- Allow the child to anticipate changes and make flexible changes

There are a number of ways to regulate the physical environment in order to make it meaningful. These include setting furniture, the use of shelves/screens, marking (labelling), the use of different floors, colour coding (marking), storage, limitation of visual distractions.

Fig. 5.2 Operating system from left to right a) basic version, b) colour marking, c) ordinal number marking

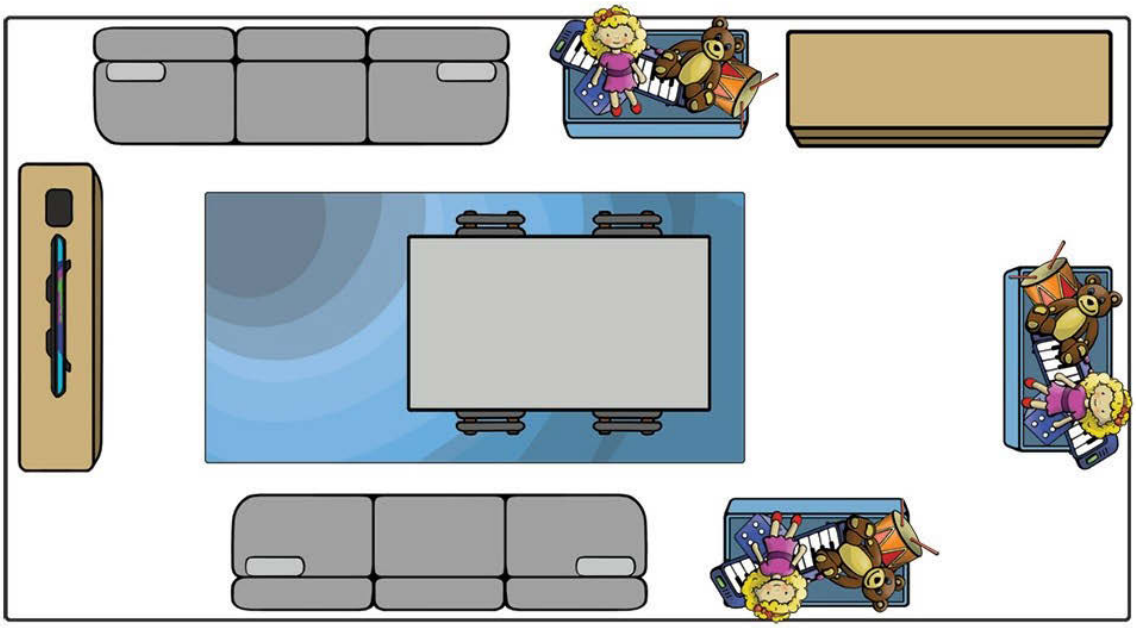

Fig. 5.3a Example of room restructuring, before

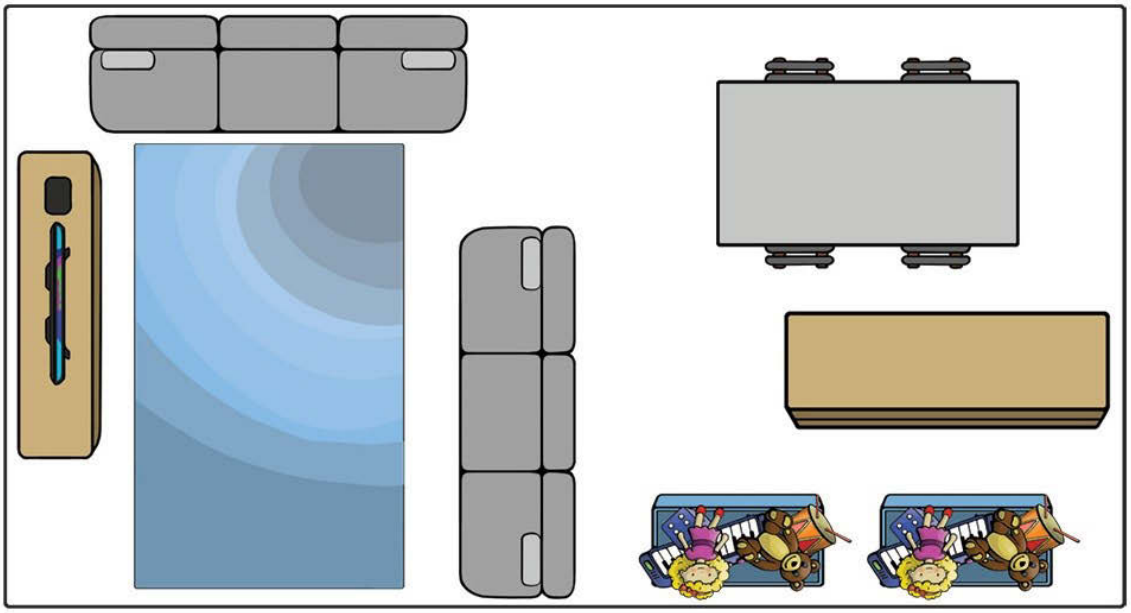

Fig. 5.3b Example of room restructuring, after

Fig. 5.4 Example of a properly organized play area, with the help of stickers

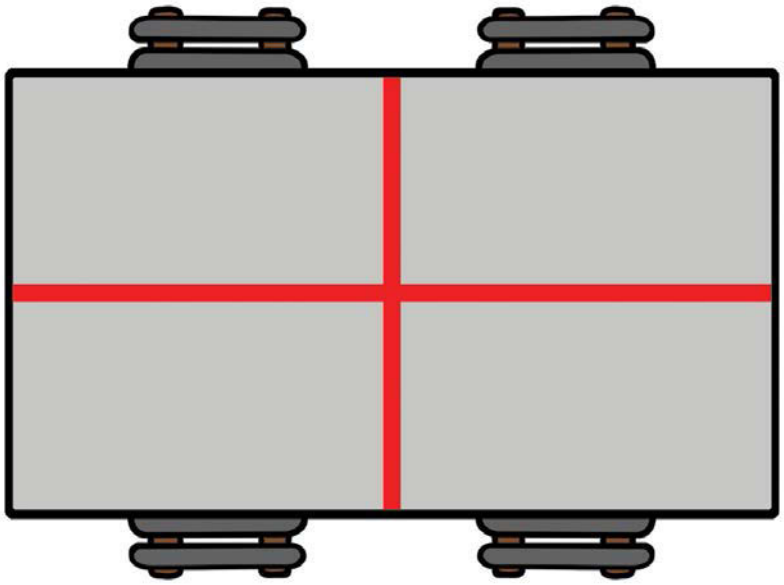

Fig. 5.5 Properly marked dining area with self-adhesive tape

ESTABLISHING RULES, PROCEDURES AND ROUTINES

After clear creation and marking of the physical spaces, teach the child what activities take place in each area, along with the rules and expected procedures for each space. These rules and procedures for each area then become powerful routines and signs of expected behaviour. The introduction of rules in visual form provides clear and consistent expectations and shows children how to behave. Such a socio-behavioural poster can provide a concise and simple sign or encouragement when the child shows unwanted behaviour and can help the child to focus. Posters that display rules can be presented in the form of a picture, a pictograph and/or a written form. They can be used separately or in combination with other behavioural management procedures. When installing visual posters, one needs to consider them meeting the following criteria:

- Clearly demonstrate the desired behaviour
- Show a reasonable number of rules (approximately three to five)
- Show positive rules, in a clear, concrete, concise, and visible way.

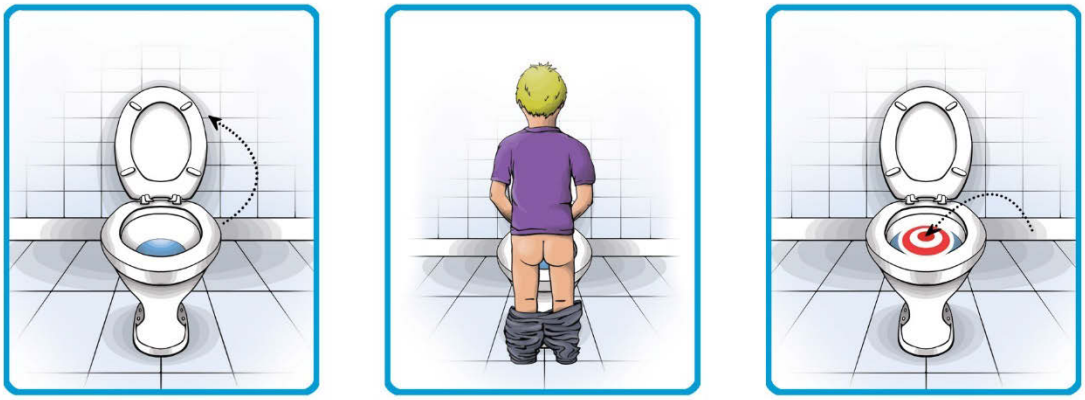

Fig. 5.6 Visual poster in the toilet

The following is an example of an effective application of a visual poster.

Borjan has difficulties sharing toys with his peers. He shouts and grabs toys often during social activities. Therefore, a pictographic and textual poster that displays rules was created for Borjan: 1) Speak with a calm tone 2) Exchange toys.

Borjan looks at the rules every day and practices exchanging with the adults. This poster is set in the playroom and it is used by the adults and the peers as a sign and amplifier to correct Borjan's behaviour.

Organizing the environment for social skill support

An example for organizational support that helps the children with autism to participate in independent activities in the classroom and use materials appropriately.

For Kalina, individual work means challenge. Also, she rarely stays on her own place when she is not motivated by the task (for e.g. Math, writing). Providing a list (check list) of what is expected for her to finish in each area reduces the need for continuous monitoring and encouragement. Kalina is very interested in art because she loves drawing animals. Kalina's educator provided her a choice chart on which Kalina can choose which materials and activities will enter the daily schedule and in what order. A before-after schedule was also made so that Kalina would understand that she will have time for drawing.

Organizing environment for game and leisure activities support

This example illustrates how the organizational support may help children with autism to learn how to play with their peers in time.

During the leisure activities, Bogdan was aimlessly running around the room. At home, he had a big number of individual interests for fun and play but wasn't able to choose individually, focus attention and have peer interaction during leisure activities in the resource centre. The educator set two choice charts for Bogdan. One of these contained pictures of activities while the other photos of his favourite peers. Bogdan could choose two peers (who have an opportunity to accept or reject each other) and two social activities. Initially, the activities were manipulative materials or art projects that provide parallel participation (parallel play). The space, the time and the materials were organized. Gradually, Bogdan and his peers started doing activities that required sharing and exchanging of materials. In order to organize toy sharing and exchanging, Bogdan was given a box for keeping all the objects that he did not want for his peers to touch and was encouraged to occasionally exchange objects from the box with an object from his peers. To have the object exchange organized, a card was given to Bogdan as a reminder to wait for his turn. The distinction between physical space, materials, partners and expectations has dramatically improved Bogdan's organization and provided him to include in activities for social play and recreation.

Organizing schedules and routines

Once the physical environment is organized, the second strategy to support social and communication skills is to establish predictable plans and routines and to communicate through the sequence of activities and events. Establishing a schedule and routine of activities during the day is the basis of the intervention. Children with autism may have difficulty changing and switching from one activity to another, which is a barrier to their independence and requires support. Schedules and routines can support people with autism in a range of activities at home, at school, at a resource centre, or at work. Schedules and routines consist of three permanent elements: 1) a beginning, 2) a series of events, and 3) the end.

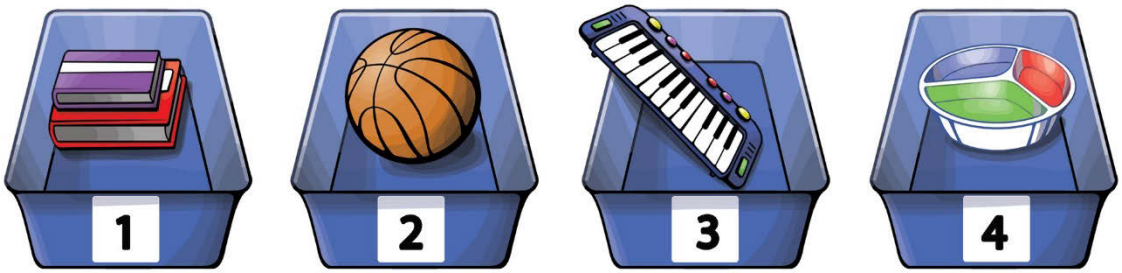

Fig. 5.7 Visual layout for daily activities with functional objects

The main function of the visual layouts is to explain the sequence of events and expectations of the child. A visual layout can display a chronological sequence of events through multiple forms of representation, including the use of specific objects, photographs, illustrations, pictographs (for example, symbols, icons), words, or a combination of these. The layout can explain to the child 1) where to go, 2) what to do now, 3) what to do next, and 4) how long to do it. They are individually tailored so that their length and form meet the needs of the child. Some layouts display only one information individually, while others may cover all of the child's activities during the day. Schedules may include:

- Daily schedule (i.e. order of daily activities)
- Transitional objects (i.e. a specific object related to an activity to prepare the child for the following activity)
- Prepare activities or tasks analysis (i.e. order of steps in the framework of a task or activity)
- Timetables or maps of duration (i.e. visual presentation of time in an order)

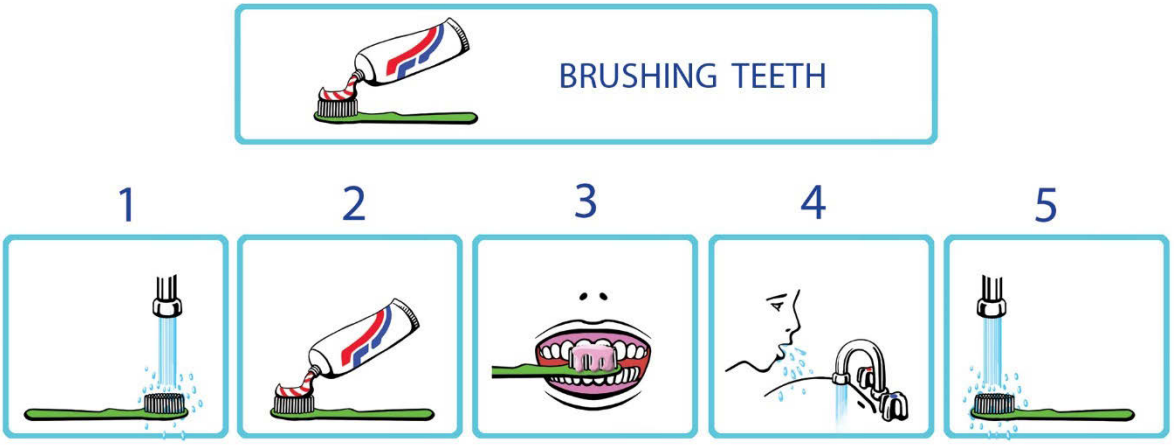

Fig. 5.8 Visual layout - task analysis

Some activities should have a visual or auditory "end" point. For example, watching a DVD or playing a game for 5 minutes before going to bed. Children often react anxiously to verbal amplifiers for the "end" of an activity. Visual amplifiers are far more effective over time: for example, you can use special timers for boiling eggs, cooking timers, phone alarms or the like.

Most social events and social interactions usually do not have a predictable sequence of events and often do not have an obvious result. Thus, the desire for routine in children with autism conflicts with the dynamic and constantly changing social events and interactions. When introducing new activities in children with autism, it is necessary to plan so that the child can adapt to them and accept them, calmly. It is important to monitor the child's level of organized behaviour and to use predictable activity routines only if necessary.

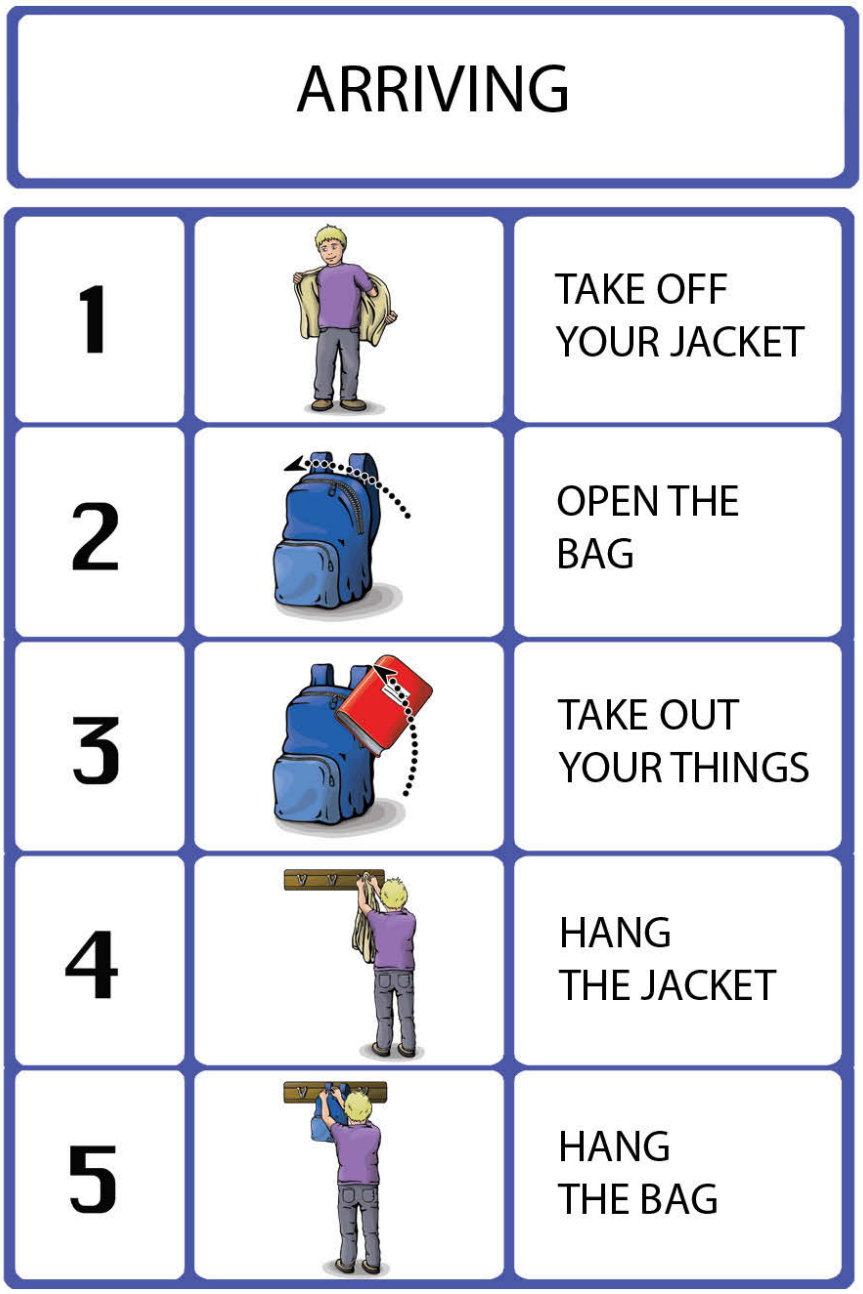

Fig. 5.9 Visual layout for school arrival routine

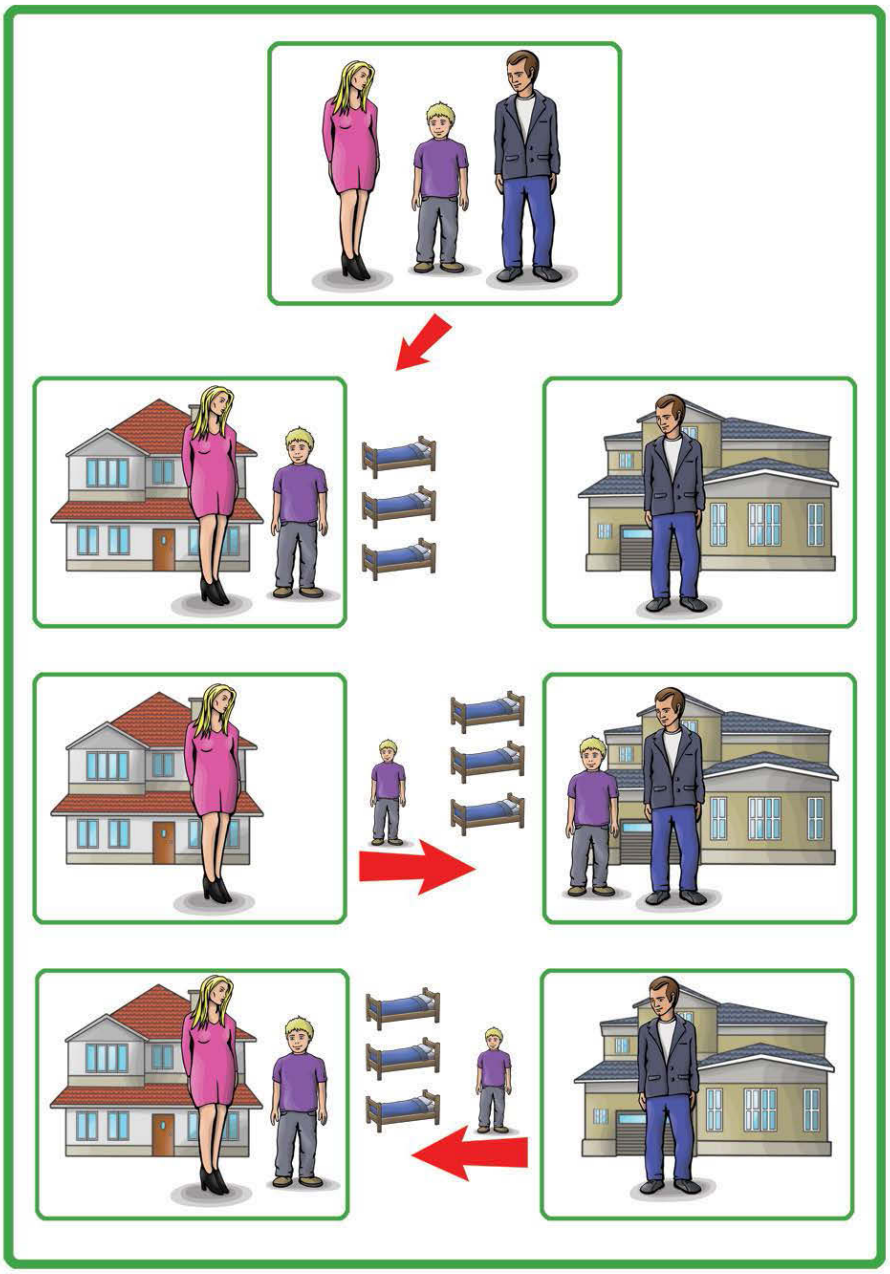

Fig. 5.10 A visual structured system explains to the child when he sleeps in the father's house and when in the mother's, after the divorce of the parents.

One ought to show to children with autism how to complete the task or activity. The task or activity should be decomposed to significant, smaller steps. Always encourage independence. Remember to have one step at the same time. Determine priorities, don’t try to learn more than one thing at the same time.

SOCIAL SUPPORT

The biggest challenge for children with autism is to extract meaning from what others do, say and feel. The social support consists of adjustments that serve to structure and strengthen the child's understanding, engagement, and participation in social interaction. This section focuses on the use of visual support to foster - encourage social understanding.

WHAT IS VISUAL SUPPORT

Visual support involves the use of visual information - real objects, photographs, pictographs, written language or video to show social expectations and prepare, encourage and support a child with autism to meet these expectations and achieve successful social interaction. Visual evidence-based practices allow the child to extract relevant social information from social situations. With visual support, children with autism can more easily attend social events, stay organized, and understand social expectations. Visual support is most effective in children who practice visual learning, children who have weaker organizational skills, have difficulty understanding verbal speech, have difficulty establishing joint attention and imitation, and when other strategies have proved unsuccessful.

Visual support is found everywhere in everyday life: diaries, calendars, maps, road signs, newspapers, teaching brochures, traffic lights, recipes. Not all of us can remember all the information we need to refer to when we need it. The visual support we use can be discreet, very obvious, or as an image. Its layout depends on what we need to know, how easy it is to understand, and how upset we are.

- Functional object - the specific object used for the activity;
- Reference subject - a subject that represents the task/activity;
- Photos;
- Drawings - illustrations to present the subject;
- Printed/handwritten text;
- A combination of the aforementioned forms.

Visual support is used for multiple levels of cognitive development. We recommend using visual support to encourage social interaction in the following ways:

- Prepare your child for social activities by clearly showing expectations.
- Practice the necessary skills with the child before social activity.
- Use instructional stimuli.
- Go back to the social situation and talk about it after it is over.

Preparation: Daily schedules, sequence of activities, and to-do lists can clarify expectations and social activities. Visual support can reduce the child with autism's need for social sign to successfully participate in social situations.

Exercise: Most types of visual support are suitable for teaching tools, i.e. practicing a certain social skill before the child finds themselves in a situation where they have to apply it. Social scripts, social stories, video modelling, socio-behavioural posters and relaxation techniques create an opportunity for the child to learn about the relevant features of the social situation and gain social and communication skills through rehearsals and exercises. Because social situations can often be confusing for

children with autism, exercise-based strategies can be more successful than strategies implemented directly during the situation.

Encouragement: Some strategies for using visual cues include items that can be used as amplifiers in a social situation. Visual cues are presented or available for the child to use as reminders. For example, if a child with autism has difficulty staying on topic during a conversation with a peer, the peer could point to a visual cue that indicates "stay on topic" when the conversation goes off topic. These non-verbal stimuli are invaluable in social situations. If a child with autism has difficulty generalizing skills, encouragement may be more successful than social skills exercise strategies.

Repetition: Visual support gives the child the opportunity to repeat social expectations after completing an activity. Specific, material signs provide clarity and repetition of information. Review is particularly important for reinforcing desired social behaviours, considering alternatives to inappropriate social behaviour, and teaching alternative, more acceptable behaviours.

TYPES OF VISUAL SUPPORT

This section describes the different types of visual support, their function, and some real-life examples of how to use each type of support for children with autism. The following guidelines contain some general ideas on how to organize a visual instruction to meet the needs of children and young people with autism:

- If the child has difficulty understanding verbal information, add visual support to the verbal information;
- If the child has difficulty with organization and does not respond to social encouragement, consider visual support;
- If the child has difficulty with basic skills for joint attention and imitation, consider visual support;
- If the child is at a pre-symbolic level of development and shows no interest in information in the form of a picture, use specific objects as social cues instead of pictures or text;
- If the child shows interest in video or television, use video modelling;
- If the child has difficulty responding to verbal instructions, the content and complexity of visual support should reflect his or her level of language comprehension;
- If the child shows interest or understanding of the written language, use strategies that use written instructions.

From the wide range of visual support, the most common types used in social interventions for children and young people with autism are discussed below. These include: activity schedule, social signs in the form of visual cards, social stories, video modelling, socio-behavioural poster, visual support for self-regulation, visual signs of relaxation.

Schedule of activities

The main function of the visual schedule of activities is to explain to the child the order of social events, to understand social expectations and to increase his independence in social activities. More information on schedules was previously given in this chapter, in the Organizing Schedules and Routines section.

Case display: use of visual schedule. Rubens was not interested in following class schedule. He likes racing automobiles, so, for him, each daily activity is put on an image of a racing car. His schedule is in the form of a racing track with a starting and finish lines. Now Rubens follows the schedule because he cannot wait to set the next car on the track.

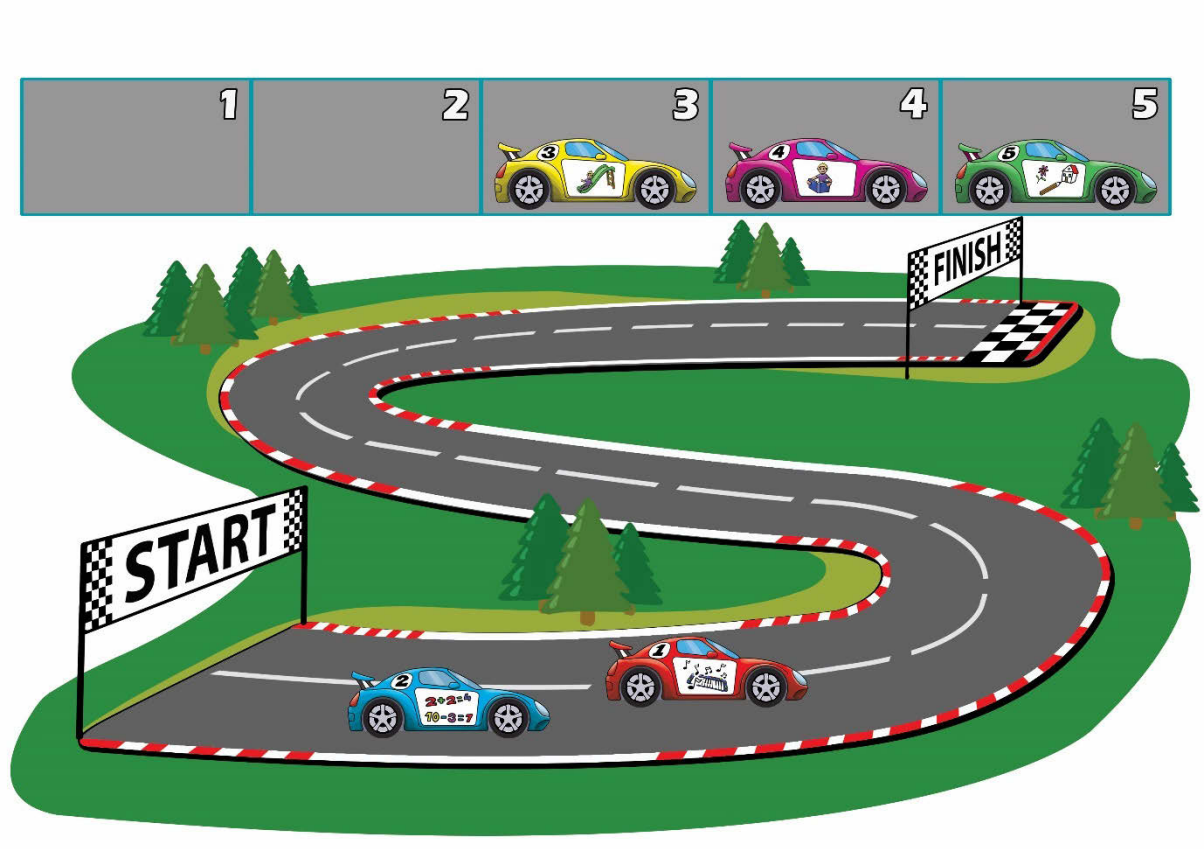

Fig. 5.11 Schedule of activities in the form of a racetrack. The completed activities are placed on the track

Social signs in the form of cards

The main function of these cards is to remind the child what to do. They may contain one or more pieces of information and replace verbal or other social guidelines. They quietly direct the individual's attention and are less intrusive than other forms of command. These cards are especially useful for situations where the child is disorganized and/or anxious. Examples of social signs in the form of cards are:

- A single message card in the form of a pictograph or a written form
- Classic whiteboard
- A tape that contains key instructions that an adult wear on their wrist
- List of reminders
- Social rules card (e.g. share, wait, exchange)

Bojan has an education assistant in the inclusive classroom who often encourages him by using cards. For example, his assistant writes key words on a board to visually instruct Bojan during group classes. With the help of these silent reminders, Bojan's attention in group activities is increased. Another card that is being used with Bojan is the sign STOP/GO which is placed on the door of the classroom. Before the cards was introduced, Bojan had often left the classroom to see the fish aquarium in the library. Bojan now knows when he can leave the classroom (i.e. when GO is displayed on the door) and when he cannot do that (when the sign on the door says STOP). In addition, these signs are used in the classroom as labels of activities that are available or unavailable for Bojan to use.

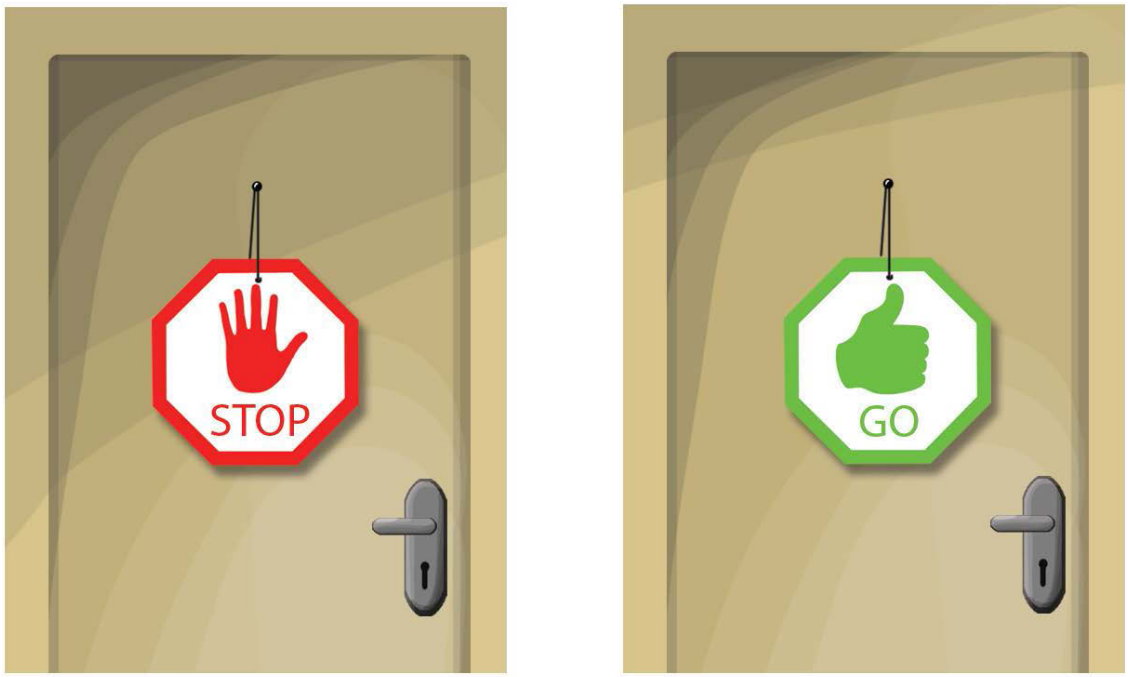

Fig. 5.12 Social sign STOP/ GO

Social Stories

Social stories clarify social expectations in a situation and support the child in developing a skill for social comprehension and other people's perspectives. Social stories can describe what happens in a social situation and why, point out the relevant features of a situation, list the desired social behaviours, and describe the reactions of others to a particular social situation for which the story is being written. The form and complexity of the information in the social story are adapted to the specific abilities, attention, learning style and interests of the child. Social stories have the best effect when written specifically for the child, in the first person singular (I can, I want, etc.), simple, concrete, accurate and true, with a positive tone and without prejudice.

In the group activities, Taner knows when to raise his hand but he becomes upset if it is not his turn. A short, simple story about emotions is made for Taner. Every day, Taner and his educator read the story as preparation and exercise and necessarily repeat it after each disturbance. Taner's educator verbally encourages him in the group activities using the same words from the story. Gradually, Taner started to use the words from the story to calm down when he felt upset. He has learned to say to himself "Sometimes it will be my turn, sometimes it won't. I can stay calm."

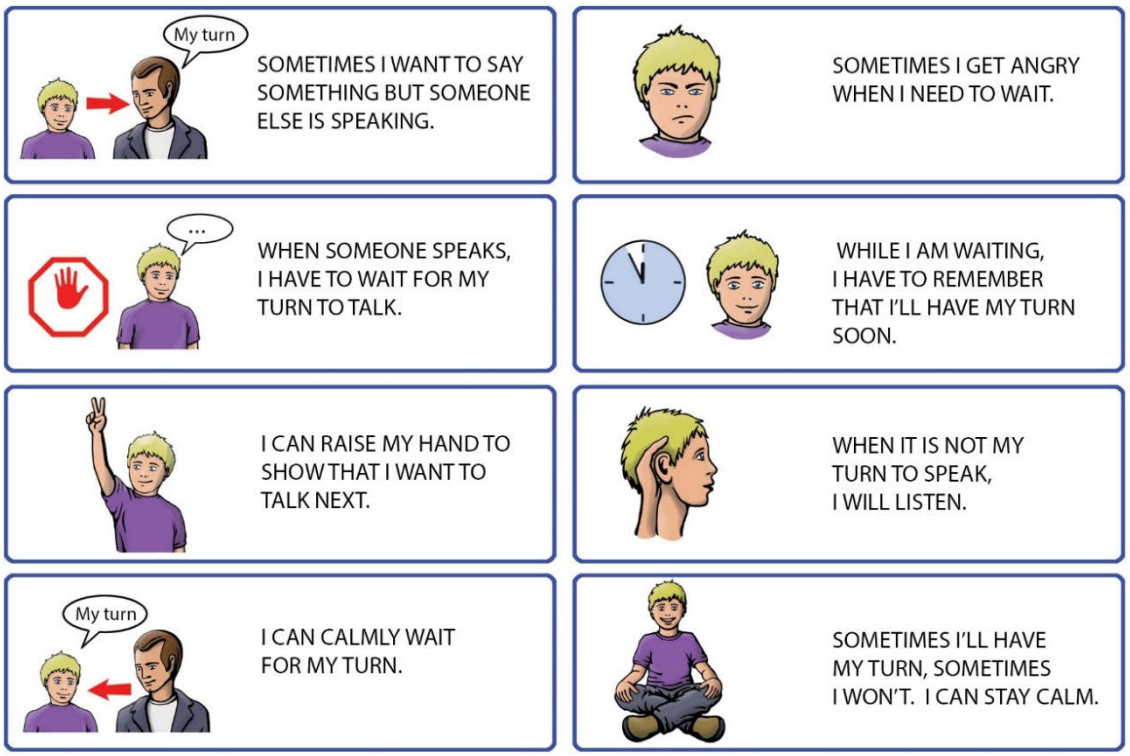

Fig. 5.13 Social story

Stories contain two types of sentences: descriptive and directing. Descriptive sentences describe and provide perspective. The general rule for the content of social stories is that they should contain at least twice as many descriptive sentences as directing sentences.

Stories should answer relevant questions that describe the context, including place (where?), time information (when?), relevant persons (who/what?), important cues (what?), basic activities, behaviours, or statements (how?), and the reasons or explanation for them (why?).

In addition to supporting children in understanding other people's views and social situations, social narratives can help children with autism prepare for a new experience (for example: a medical examination, air travel) and direct the child to acceptable and useful behaviour in a specific situation.

Video Modelling

Video modelling can be used to acquire specific social skills. The videos are created in order to emphasize the more important social signs and specific social and communicative behaviours. Some children with autism prefer visual support in the form of videos, because the video as a format allows unlimited repetition of the same social events in a predictable way. Unlike natural social interactions, which never happen the same way twice, videos can present identical situations over and over again. Support through video modelling can help children develop social understanding and communication skills and can be used in conjunction with other visual strategies. In the basic type of video modelling, the child observes a peer or an adult as a model in a certain social context, while in self-modelling the child observes himself as successfully completing a task, behaving appropriately or performing a new activity. Video modelling has unlimited application, such as:

- teaching motor imitation skills
- teaching free play and leisure activities skills
- teaching social game skills
- teaching social expectations in the community
- teaching different behaviours as a substitute for provocative behaviour
- teaching specific communication messages,
- teaching conversation involvement skills, etc.

There are some basic ideas to keep in mind when using video modelling for teaching social skills, which include the following:

• Show the video regularly (i.e., daily or more often if the child is interested).

• Preview the video just prior to the actual activity when appropriate.

• Pair the video model with a second visual cue (e.g., schedule, cue card, social script).

• Use the second visual cue as an instructional prompt in the natural social situation.

• Assess skill acquisition.

• Continue practicing the target social skill through the use of video and other visual cues as needed.

• Gradually fade the frequency of video preview until the skill is mastered.

Here are two practical examples of using video modelling. In the first example, video modelling was used to support a visit to the dentist. In the second example, video modelling is used to teach communication skills.

Ena does not like going to the dentist. She starts screaming as she approaches the dentist building and her reaction is so extreme that two adults need to hold her during a routine check. She does not want anyone to touch her teeth because she associates dentists with toothache. A video for visiting a dentist is made for Ena. The video includes Ena's sister who is visiting a dentist for a check-up and Ena's favourite music is in the background of the video. The dentist uses instruments to slowly check the teeth and the gums of the girl. The girl remains calm and after she leaves the dentist's, she gets Ena's favourite snacks as a reward. An activity schedule is paired with the video. Ena watches the video every day and prepares for visiting the dentist two weeks in advance. During the visit, she brings along her activity schedule and video to the dentist's office. From then on, every visit to the dentist was easier for her.

Andrej does not like it when someone borrows something from him. He is exceptionally protective of his personal belongings and this draws his attention away from his work. When someone asks him to borrow something, Andrej usually starts shouting. The efforts for encouraging Andrej to communicate alternatively were unsuccessful until video modelling was implemented. On the video, his peers realize several scenes in which they use the phrase "No, you can't! That's mine!" when some of them wants to borrow materials for work. The video presents three peers and four different scenes. Andrej enjoyed watching the video at home and in school and used the message "No, No, you can't! That's mine!" in a perfect way in the classroom in two days' time.

Socio-behavioural poster

The visual poster that we have already reviewed in the section of Organizational Support, Establishing Rules, Procedures and Routines, has its application as a social support. The Socio-Behavioural Poster has the function of showing rules and social expectations in the form of acceptable social behaviours in communication and interaction with adults and peers. Providing rules in visual form ensures that adults are clear and consistent, and the display can also divert the child's attention and provide concise and simple encouragement when the child shows unwanted behaviours. Posters can illustrate one or more rules represented by a photograph, illustration, or a pictograph. Also, if the visual form is not necessary, the poster may be in textual form. Socio-behavioural posters can be used alone or in combination with other challenging behaviour management procedures. The following is a practical example of the use of a socio-behavioural poster with the sign BE QUIET, illustrated in Fig. 5.14.

Ali's peers become upset due to his loud vocalizations that disrupt the sequence of group activities. One of the rules displayed visually on the socio-behavioural layout at the front part of the classroom is marked with BE QUIET. The educator points to the layout to remind Ali that now is not an appropriate time for talking.

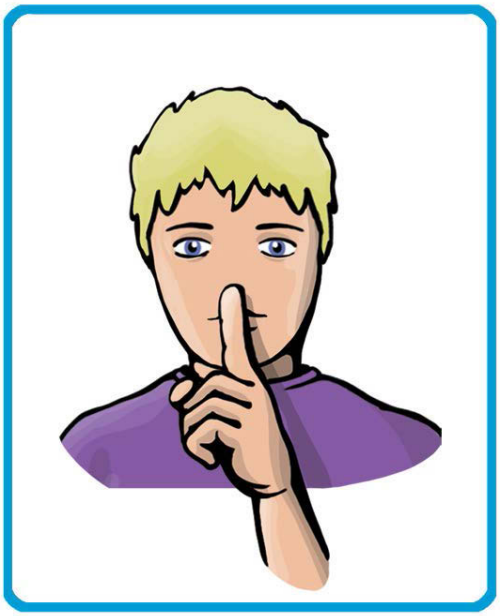

Fig. 5.14 Socio-behavioural poster, visual sign BE QUIET

Self-regulation support

The main function of visual self-regulation interventions is to enable children to learn awareness and self-control strategies. These types of interventions are involved in cognitive-behavioural practices. Self-regulation support focuses on stressful events that are known to trigger challenging behaviours and support the child in learning alternative self-control strategies. Desired social behaviours and social events are presented in a visual form. Visual images are used in practices such as intelligence and meditation. These practices focus on the mental state of being conscious and calmly acknowledging, accepting, and regulating feelings, thoughts, and sensations. Several well-known strategies fall into this category, such as:

- The amazing five-point scale,
- Regulation zones,
- Emotional thermometer and rating scale,
- Visual representations

Visual representations are images that depict scenes from a stressful situation presented as a series of images associated with a simple verbal script or narrative. The sequence ends with desired behaviours and positive outcomes. Images are viewed multiple times each day. After the child with autism learns a series of pictures from the event, it is repeated before, during or after the real stressful situation. The goal is for the child to show the desired behaviours in the natural environment with the help of visual and verbal pictures as cues.

Lea has significant difficulties when she rides on the school bus. It was concluded that the difficulties are caused by the noise in the bus. For that purpose, a sequence of five photos that present the stressful event and what should Lea do has been made: 1) Lea enters the bus, 2) Lea sits in the bus, 3) peers are talking and laughing out loud, 4) Lea listens to music using headphones, and 5) Lea gets off the bus and receives a hug by her mother. In situations when the others are being loud, Lea practices using headphones. Lea looks at the visual sequence of scenes every day, especially before and after riding on the bus. Gradually, Lea's challenging behaviour on the bus has been replaced with listening to music as her self-control strategy on the bus.

Relaxation cues

The main function of the relaxation cue is to provide a visual cue, i.e. a stimulant that directs the child with autism to relax. Relaxation cues are an effective tool for nonverbal stimulation of the child when in a stressful situation - when the child is unable to receive and understand verbal amplifiers. These cues can also be an effective way to reduce repetitive behaviour. Cues can be objects, pictures, illustrations, pictograms or written language and they represent a relaxing location, object, activity or procedure. A certain area in the room, a box with small toy twists (like a fidget spinner), a board for selecting activities, a checklist containing ways to relax, are just some examples of relaxation cues. The information can also be presented in the form of a card or a social story. Relaxation cues can visually guide a child with autism to: go to a certain location to take a break, use a certain object to relax, choose a certain activity to relax, use a certain sequence of relaxation procedures.

Alex often expresses delayed echolalia that he doesn't use for communicating with the environment. He repeats scenes from a favourite film. This behaviour intensifies during stressful situations. Alex now encourages himself to relax in two ways. Firstly, the rocking chair in the reading corner of the room in the centre and a similar chair in his kids' room at home are identified as places for relaxing. A photograph of the chair is used for Alex to be reminded to go to the corner. Gradually, Alex learns to hand over the card to the adults in order to ask for a break. Also, he learns a sequence of techniques that include deep breathing and counting. This relaxing procedure is visually presented on a small card that may be used everywhere.

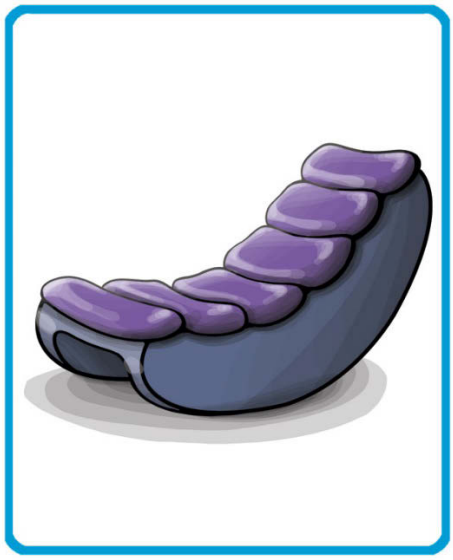

Fig. 5.15 Visual sign for relaxation

COMMUNICATION SUPPORT

It is essential to provide communication support to children with autism who are not sufficiently motivated or do not have sufficient resources for effective communication. This support uses a variety of forms of augmentative (assisted) and alternative communication (AAC). They can be found in a traditional as well as in modern form, which includes the application of technologies for functional communication improvement. These are the common forms of AAC used to support communication:

1. PECS - a communication system with the help of pictures, which is used for children who lack developed speech;
2. Sign language - applied successfully in children in whom the absence of speech is due to difficulties with verbal imitation;
3. Interactive communication boards - applied in cases where communication is dependent on encouragement;
4. Card-type communication signs - used to support spontaneous start of conversation;
5. Discussion books - when the child has difficulty communicating in stressful situations.

Most communication support is based on visual support. It aims to help children understand situations and expectations.

PECS or image-based communication system has a wide range of applications and is evidence-based practice. Using PECS encourages exchange, teaches the child that communication is reciprocal, and also supports speech development in children. Communication is rewarding and allows you to achieve a goal. Parents sometimes think that if a child learns to communicate with pictures, there will be no need to use speech. To avoid this, it is necessary to encourage and speak in parallel with the picture.

Exchange with physical encouragement is performed with two adults-interlocutor and assistant in the following way:

1. The child reaches for what they want. The assistant interrupts them and physically encourages them to take a symbol/ map.
2. The child is holding a picture in hand, the assistant helps them to put the picture in the open hand of the communication partner (physical encouragement).
3. The communication partner gives the desired object to the child and names it.
4. Verbal encouragement is not used in this phase.
5. The exchange is immediately naturally awarded by giving the object required by the child.
6. When the steps of exchange have been acquired, the physical encouragement is reduced.
7. When the physical encouragement has reduced, the requesting with an open hand by the communication partner is more rarely used.

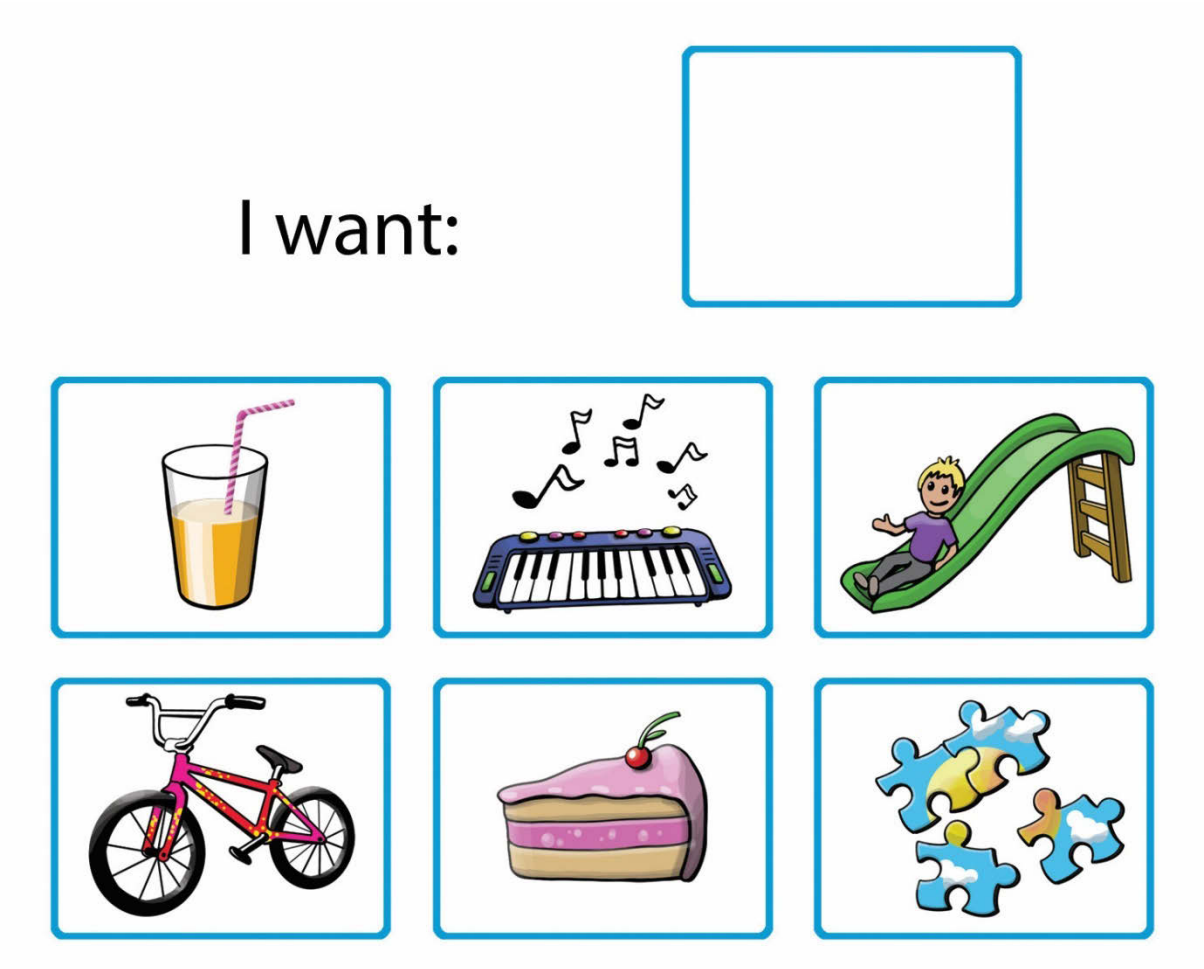

Fig. 5.16 Choice board, communication using pictures

Simplified versions of sign language can be useful for communication between parents and the child. For example, Makaton is a simplified version of the British sign language created for people with learning difficulties who have poorly developed speech. The use of sign language will not prevent the child

from developing speech. When using sign language with a child with autism, always speak at the same time. This will encourage the child to start talking. A wide range of technology-based communication aids are also widely used. Examples include speech-generating devices, voice-output communication aids, software applications for smartphones, tablets or computers, which are just some of the many devices that are more or less technology-based. We recommend consulting an expert on assistive technology when choosing the appropriate option.

BEHAVIOURAL SUPPORT

UNDERSTANDING THE CHALLENGING BEHAVIOUR

The challenging behaviour that children with autism may exhibit is complex and confusing to both professionals and parents. Challenging behaviour is inappropriate behaviour that is socially unacceptable because it does not correspond to the age of the individual, disturbs other people, causes harm to other people, or is likely to damage property. Although some challenging behaviours can be caused by medical reasons, most of the behaviours are a reflection of social and communication frustrations, anxiety, the child's intense interests, challenges in the organization, or discomfort in the physical environment. Children with autism do not know how to behave spontaneously in certain situations, therefore they need support. For example, they may not understand why they are being told to stop doing certain things. Children need support on how to improve or change behaviour. Sometimes it is a reaction to stress, or happens because they have difficulty assessing their own feelings or the consequences of their behaviour. Sensory hypersensitivity can also be a cause of challenging behaviour. In most cases, the challenging behaviour indicates that:

- The child has difficulty assessing what is acceptable and what is inacceptable in the situation
- The child has difficulty assessing what to do
- The child has difficulty understanding the social situation or context
- The child has difficulty assessing what to say
- The child uses a skill, but does not understand its meaning
- The child is in an uncomfortable situation (physical discomfort);
- The child feels anxious or overwhelmed by stimuli;
- The child has difficulty coping with stress;
- The child has difficulty directing their attention.

These types of behaviours make it difficult to learn and perform daily activities and sometimes put the child with autism at risk. They are difficult to change and if they persist for a long time, they turn into long-term difficulties. In children with autism, challenging behaviours include: self-harm, physical aggression, verbal aggression, disobedience, disruption of the environment, inappropriate vocalization, and stereotypes.

Factors in the environment can trigger challenging behaviour. Parents, teachers, educators may inadvertently cause such behaviour. According to research, there is evidence that challenging behaviour occurs in childhood, peaks in adolescence and young adulthood, and then declines.

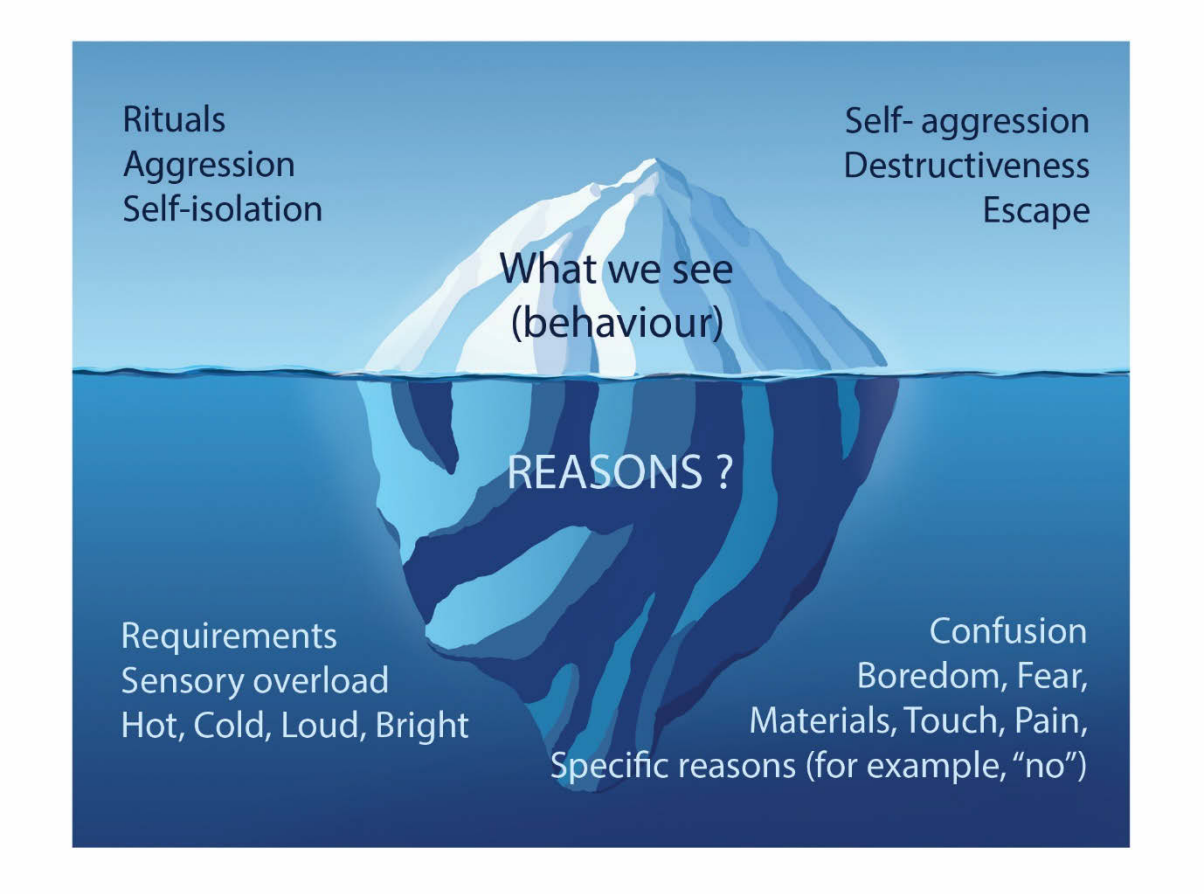

Fig. 5. 17 The behaviour of the child we see is often the result of something much deeper

To change behaviour is to understand behaviour, and understanding behaviour is to understand autism. The US psychologist Dr. Eric Schopler has introduced the iceberg analogy to help understand challenging behaviour. Specific behaviour is like the tip of the iceberg (the part we see above the water line). Under the water is a whole mass of ice that is hidden from our view, representing the basic causes of behaviour. In order to respond to behaviour, the underlying causes need to be considered and researched. If the causes are discovered and removed (if the ice has been removed from under the water), the challenging behaviour should be reduced and then eliminated. If we only try to stop the behaviour without understanding it and solve the basic reasons for its occurrence, the child can replace this behaviour with another or strengthen it in an even bigger challenge.

MANAGEMENT OF CHALLENGING BEHAVIOUR

Challenging behaviour is behaviour that can occur in any child. In children with autism, this means communication through which a request is being made. Behavioural management involves discovering the cause of the behaviour. In general, experience has shown that challenging behaviour in children with autism falls into one of the following categories:

- Behaviour that causes pleasure or excitement
- Behaviour resulting from discomfort
- Behaviour resulting from confusion in the child
- Behaviour resulting from reduced skills in the child

- Behaviour that is a learned pattern
- Behaviour caused by health reasons

1. The primary goal of managing challenging behaviour should be to increase the child's physical comfort and social understanding by teaching them substituting skills to reduce the frequency and intensity of the behaviour. The basic recommendations for managing challenging behaviour, depending on the nature of the difficulty, include:
2. Intervene early. Teach your child to behave in a timely and appropriate manner in a timely manner to prevent the behaviour from becoming a habit or a ritual.
3. Provide sensory support, in the form of age-appropriate replacement items and activities. See more in the Sensory Sensitivity Management section.
4. Provide organizational support with visual tools. See more in the Organizational Support section.
5. Teach your child alternative social and communication skills. For example, better ways to meet needs: by asking what they want or what they need, by saying no, by asking for help. See Social Support and Communication Support.
6. Teach your child relaxation and self-regulation skills. See more in the Self-Regulation Support section.
7. Prepare your child for stressful situations in advance. Use video modelling, social stories, visual support.
8. Strengthen alternative behaviour. Use behavioural reinforcement strategies. See more in the Evidence-Based Practice section.

Limit access to a desired item. The consequences or punishments of this kind should be considered only when preventive strategies have already been established, and new skills and behaviours are applied. The consequences only work if the child has the skills to behave differently, is likely to understand and remember the relationship between behaviour and the consequence, and if they have something to lose.

Strengthening appropriate behaviour is just as important as reducing unwanted behaviour. Parents and professionals need to apply different reward systems. Reward systems are also called token systems. Tokens are various collectible items, images, symbols that the child wins, and when they are won in a certain number, they allow the child to receive a certain reward. Tokens have a certain value, defined in the "behavioural agreement" that is established with the child (Fig. 5.18). This agreement explains the value of the token to the child or, more precisely, how many tokens they need to win to receive the prize. Tokens have a certain value, defined in the "behavioural agreement" that is established with the child (Fig. 5.18). This agreement explains the value of the token to the child or, more precisely, how many tokens they need to win in order to receive the prize. The system for upgrading makes sense only when highly motivating activities or objects are used as a reward. A child can be rewarded with a star, for example, if they eat dinner, and when they fill their board with seven stars, then they will get their reward.

Another possibility is the token system jigsaw puzzle (Fig. 5.18). It is a great way to reach an agreement with your child. It is done with a photo or illustration of a child's favourite object or activity. The photo should be cut into several pieces and each of them to present a token which will be won as a reward of a completed activity. When they have won all the pieces of the puzzle and completed the picture, they should get the activity/object they want.

Fig. 5.18 Behavioural Agreement

Fig. 5.19 Token system - jigsaw puzzle

Faced with challenging behaviour, the following tips can help parents and professionals prevent the situation from getting worse and solve the situation faster:

- ✓ To stay calm
- ✓ To use visual instructions
- ✓ To retreat with the child in a quiet zone or area
- ✓ To give the child enough time to calm down
- ✓ To remove the child from a place with a lot of people or audience
- ✓ Not to address the child with words
- ✓ To distract the child's attention with a different activity
- ✓ Not to let the conflict exacerbate
- ✓ To attempt exercising by taking deep breaths and relaxing
- ✓ To investigate the reason for the child's condition after they calm down

CHAPTER 6. MANAGING SENSORY SENSITIVITY, DIET AND SLEEP

MANAGING SENSORY SENSITIVITY

Sensory integration is a neurological process in which sensory stimuli from one's own body and the environment are being organized and which provides efficient use of the body in interactions with the environment. Thus, we create suitable, adaptable behaviours as a response to the environment. The sensory system includes the senses of sight, hearing, taste, smell, tactile sense (touch), proprioceptive sense (muscles and joints), and vestibular sense (balance and movement).

The senses warn us of events happening in our environment. Through the senses, we learn about our environment as well as about ourselves, creating memories that contain records of our history of sensory experiences. Nowadays, the presence of unusual sensory sensitivity (increased or decreased) of various sensory stimuli in children with autism is widely recognized. The child may be hypersensitive or insufficiently sensitive to touch, sound, smell, taste and pain. Children with autism may experience difficulty if they are exposed to different stimuli at the same time. They find it challenging to coordinate, process, or eliminate these stimuli. For example, these children may have difficulty following conversations when there are sounds in the background or have difficulty with the presence of a visual stimulus when someone is talking. Some children may experience mismatching of the stimuli, that is, to perceive the sound as picture and picture as sound.

Some of the difficulties in receiving and processing stimuli are due to the system for regulating balance and movement, i.e. the system that provides information about the position of the body. Sensitivity to stimuli can affect a child's ability to focus on tasks, coordination of motor activities, and the ability to plan and process new tasks. In addition, these stimuli make it difficult to engage in the social environment, complicate the self-care of the child, and influence the adaptation and achievement of school requirements. The child has difficulty sitting upright behind the school desk and directing their attention, holding the pencil and writing independently, performing tasks and the like.

If there are any doubts about the existence of unusual responses to everyday stimuli, to assess the needs of the child, from the point of view of the therapist, the following are applied:

- monitoring children in natural surroundings
- interview with the parent and the teacher
- standardized tests
- structured clinical observations to determine specific ways in which the impaired use of sensory information is reflected on the efficient functioning of the child.

It is estimated that 5-15% of the general population is affected by these sensory regulation challenges. In children with autism spectrum conditions, it is quite common to see approximately 8 out of 10 children.

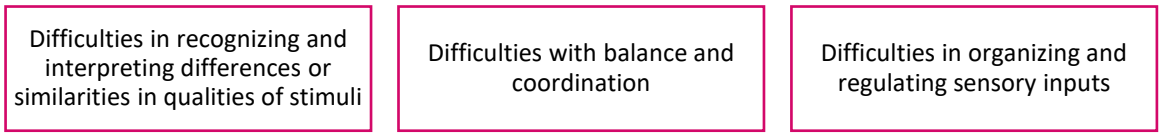

Fig. 6.1 Types of sensory processing difficulties

TOUCH

Difficulties processing sensory information from the sense of touch can cause:

- Learning difficulties - touch intensely distracts attention;
- Weak social skills;
- Difficulties with imagination - insufficient experiences;
- Inflexibility and rigidity;
- Dietary challenges;
- Challenges with clothing and combing hair;
- Tantrums, punching, etc. - in response to a threat of touch from others

How to recognize these challenges in children?

- They refuse to wear certain clothes or refuse to change clothes;
- They are disturbed by physical contact;
- They do not want to be dried off after bathing;
- They refuse to eat certain foods or will eat only dry food;
- They do not respond appropriately to the temperature, for example, wear warm clothes on a hot day.

Ways to deal with difficulties in processing sensory information from the sense of touch:

- Check with your child whether squeezing your shoulder may be a special way of expressing "I love you."
- Give a warning before touching your child.
- For difficulties in sleeping, you can add a few more blankets and make the room colder. Excess weight can put deep pressure and this calms some children. It is what is needed for their bodies, so they become calmer.

The most common tools for dealing with difficulties in processing sensory information from the sense of touch are various sensory toys for tactile research, different types of specialized sensory tooth-brushes, hard (weighted) blankets that can help with sleep disturbance, a heavy vest and a belt that provides a calming effect, specialized relaxation armchairs.

Fig. 6.2 Specialized armchair for relaxation

HEARING

Difficulties in processing sensory information from the sense of hearing in children with autism can cause:

- Difficulties in remembering, organizing and sequencing skills;
- Difficulties in directing and retaining attention;
- Difficulties in understanding speech and verbal guidance;
- Anxiety in loud environments;
- Difficulties in posing questions;
- Bad social skills and interpersonal relationships.

How to recognize these challenges in children?

- The child does not respond to his or her name;
- The child puts their fingers in their ears because the sound upsets them;
- They hit their head against a wall or another object;
- They play loud music or make loud noises (self-stimulating);
- The child does not recognize certain sounds;

- The child enjoys crowded noisy places, kitchens, knocks on doors and buildings;
- Difficulties in concentrating in class during group work.

Ways to deal with difficulties in processing sensory information from the sense of hearing:

- Make sure your child is focused on you before you speak;
- Reduce the speech to the child, speak slowly, take breaks, use short lines and directions, give your child "processing time" of auditory data;
- Provide the child with headphones when in noisy places;
- Assess environmental noise, for example, noisy television, music, talking people, hand drying in public toilets, barking dogs;
- Provide the child with a music player - it blocks sound, provides music, and has a single function

Fig. 6.3 A tool for dealing with sensory processing difficulties

VISION

Difficulties in processing sensory information from the sense of sight in children with autism can cause:

- Difficulties in monitoring what the child sees
- Sensitivity to bright colours and lights, especially flashing lights;
- Difficulties in distinguishing foreground and background;
- Dyslexia and other learning difficulties;
- Difficulties reading nonverbal cues.

How to recognize these challenges in children?

- They have difficulty coping with changes in light, shadow, day and night.
- They may like bright colours, or they may look upside down when there is sunlight outside.
- They turn their heads away from light stimuli, or cover their eyes;
- They become hyperactive when looking at colourful surroundings;
- Have difficulty focusing on reading;
- They have a specific way of looking at things (they can look at things from unusual angles).

Ways to deal with difficulties in processing sensory information from the sense of sight:

- A quiet place with a controlled light is needed where the child can relax (tent, tinted curtains in the bedroom, etc.);
- Encourage the child to use sunglasses on a bright sunny day;
- A hat can help, especially if the child does not want to wear glasses;
- Can home lighting be changed? For example, have the reflectors replaced with a LED light strip;
- Avoid wearing white and yellow tones that create glare and blindness;
- The covers of the books should be yellow
- Transparent yellow foil that helps with reading and visual processing

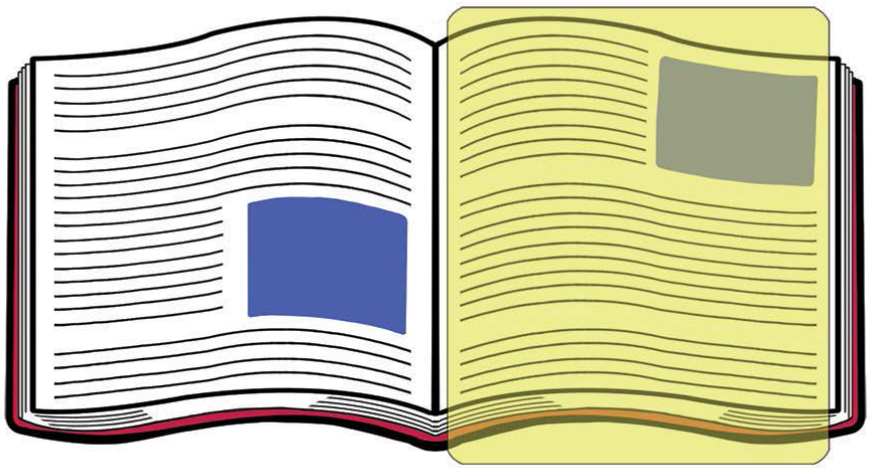

Fig. 6.4 Easy reading with a transparent-yellow foil

BODY AWARENESS

The sense that gives us awareness of our body position is called the proprioceptive or deep inner sense. It is related to the joints and the way they work. The difficulties in processing sensory information from this sense may cause:

- Risky - unsafe - behaviour;
- Chewing on inappropriate items;
- Requiring deep pressure;
- Difficulties with motor planning (performing conscious and intentional body movements);
- Low self-esteem;
- Too intense and too low pain sensitivity.

How to recognize these challenges in children?

- They bump into other people;
- Hold other people and objects intensely and firmly;
- Move their whole bodies to see people;
- They move through the rooms and the space in a specific way;
- There may be clumsy, and find it difficult to avoid obstacles;
- They stand close to others, unaware of personal space;
- Difficulties with fine motor skills (for example, when buttoning buttons, tying shoelaces and writing).

Strategies for dealing with difficulties in proprioceptive processing:

- Check with your child whether squeezing the shoulder may be a special way of expressing "I love you."
- Give warning before touching your child.
- For difficulty in sleeping, you can add a few more blankets and make the room colder. Excess weight can add pressure, and this calms some children and it is needed for their bodies, so they become calmer.
- Exercises to stimulate this sense, which include activities with heavy objects or the child's own weight

Fig, 6.5 shows an example of choice board for selection of activities for proprioceptive regulation.

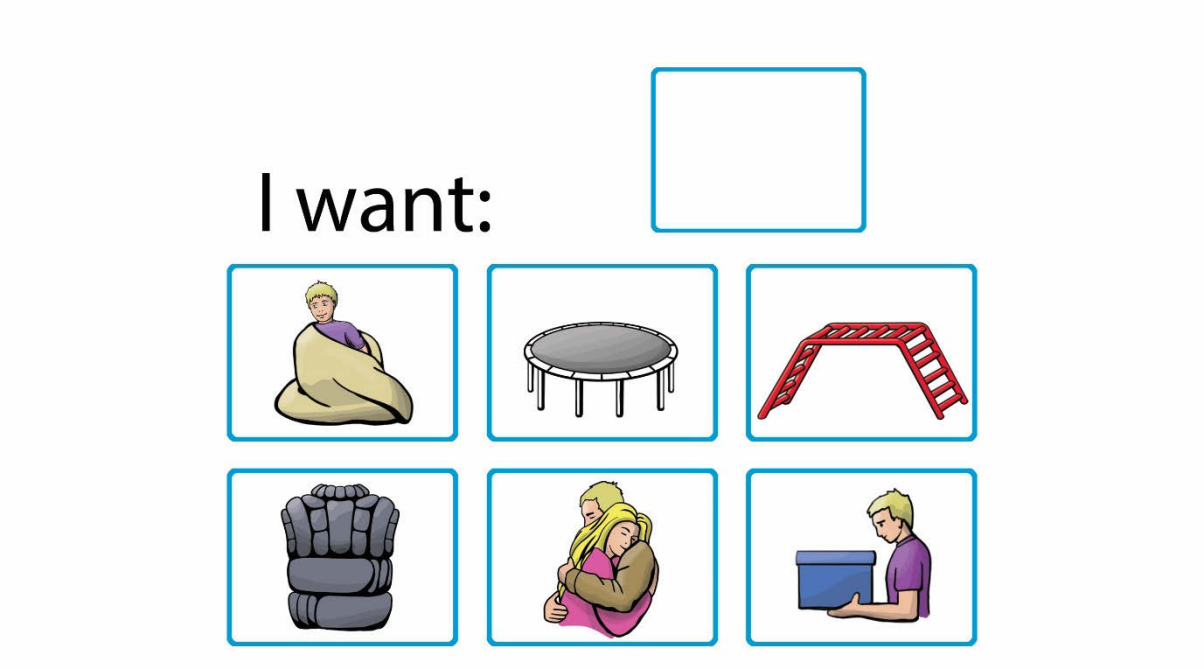

Fig. 6.5 Choice board for selection of activities for proprioceptive regulation

BALANCE AND MOVEMENT

The vestibular sense in the middle ear is responsible for coordinating movement and balance based on the position of our heads in space. This sense influences our response to gravity, movement, and balance. If there are changes in its function, dizziness can occur, which can create the feeling that everything around you are constantly spinning or you feel like you are "swimming". Difficulties in processing sensory information from the vestibular sense can cause:

- Excessive movement in space;
- Psychomotor restlessness and distraction;
- Risk-taking activities;
- Speech and language difficulties;
- Improper body posture or differences in muscle tone;
- Too intense swinging and jumping.

How to recognize these challenges in children?

- Repetitive activities such as light rocking or swaying as well as ritual behaviour;
- Behavioural self-harm such as hitting the head;
- Difficulties in standing or quick spinning around;
- Fear or avoidance of certain activities, such as swinging on swings, descending on elevators or walking uphill;
- Visible during activities that involve uneven surfaces and height differences;
- They are constantly spinning around, running around in circles, jumping up and down (hypersensitive).

Ways to deal with difficulties in vestibular perception:

- Hypersensitive children need predictable, slow, and rhythmic movements. It is important when having sensitive individuals, to initiate them to be responsible for these activities whenever possible: gentle swinging, swinging backwards, walking and slow gymnastics
- Children with reduced sensitivity need quick and unpredictable movements such as: hopping (eyes are able to refocus with the head), jumping, running and playing “hopscotch”.

Props that provide vestibular stimulation include trampolines, swings, exercise ball, balance plate, and more. The use of vestibular stimulation props may have adverse effects in children with concomitant epilepsy. Choosing the appropriate specialized equipment for vestibular regulation is recommended to be done by an occupational/sensory therapist or a special educator with additional expertise in this area.

SMELL

The olfactory system is responsible for our smell. Children with autism may be hypersensitive or hyposensitive to smell. Their sense of smell can be overwhelmed by certain perfumes and fragrances. Some children may have difficulty urinating due to the sensitivity of the unpleasant odour. Children with reduced sensitivity may not be able to recognize their own body odour, and may have difficulty distinguishing odours, or recognizing doors that signal danger, such as the smell of smoke or gas.

How to recognize these challenges in children?

- Difficulties in eating;
- Difficulties in defecation;
- Movement and certain behaviour around people who use perfume or an aftershave
- Refusal to engage in activities due to unpleasant odours;
- Refusal to go to certain places;
- They cannot notice extremely strong odours or are disgusted by strong odours.

Ways to deal with the difficulties associated with the sense of smell:

- Consider environmental control;
- Do not wear strong perfumes;
- Do not use highly perfumed cleaning products unless children prefer that scent;
- Relax them with the scents they love;
- Or build a gradual tolerance for unpleasant odours.

Sensory-integrative therapy can help overcome the challenges. Some tools from everyday life for dealing with the difficulties associated with the sense of smell include the use of scented sticks, scented wipes, oil burners, etc.

TASTE

The sense of taste is closely related to the sense of smell. Children may be hypersensitive or overly sensitive to certain tastes. Sometimes they insist only on certain tastes. They may have difficulties in getting rid of certain harmful foods. Children may respond to:

- the texture of food,
- hot or cold food,
- food consistency,
- food colouring.

How to recognize these challenges in children?

- They refuse to eat certain foods;
- They need to eat non-food items. The child licks or tries to eat things like: earth, grass, other materials and metals;
- Challenging behaviour before mealtime
- They keep the food in their mouth and do not swallow it (“ruminating the food").
- Certain textures are triggers to prevent nausea. Cannot tolerate different food textures altogether.
- They may insist on eating only one colour.

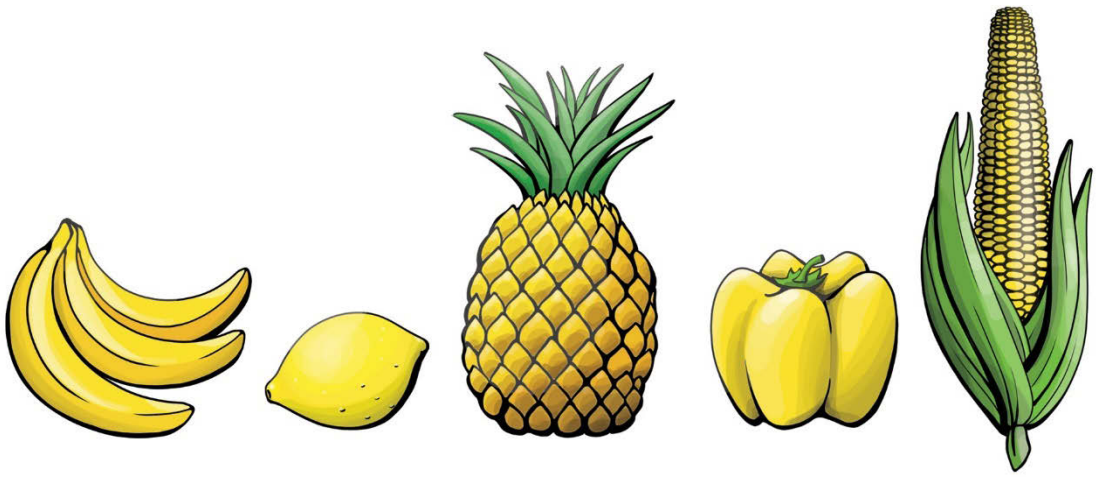

Fig. 6.6 Food in yellow colour

Ways to deal with the difficulties associated with the sense of taste:

- Establishing regular routines for meals and reducing snacking or "nibbling" on various titbits;
- Use a plate divided into sections for different types of food;
- Conduct a "sensory diet" (a daily routine of sensory experiences, including daily opportunities to play with different types of food);

- Desensitization can be a very effective way to expand your diet. Offer only a small intake of new food, and the first time (1/16 teaspoon) for several times during the meal.

One of the solutions for improving nutrition is the method of divided plates (Fig. 6.7). Hunger can be recognized if the child becomes very nervous, so they may need to learn how being physically hungry really feels. They often do not recognize the feeling of satiety. Pica is a condition in which a child needs to eat something that is not food. It can be caused by a nutritional deficiency, but it can also be a way to satisfy a child's sensory needs.

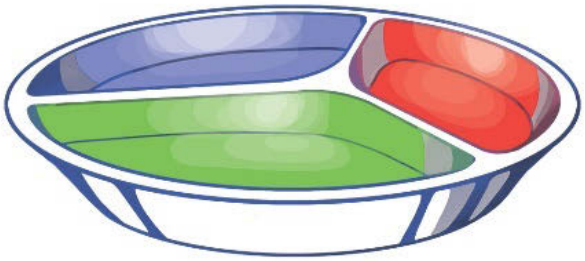

Fig. 6.7 Plate with special sections for various types of food

Social expectations of the child are: to sit at a table, not to talk during the meal, to eat near other family members, to always use cutlery and to adhere to certain manners during the meal. The environment in which the child eats can be of great importance. There may be visual distractions, noise, and intense odours, such as in school dining rooms. Allow the child to choose their favourite place to eat.

Some children may have gluten or casein intolerance or an allergy to other foods. All this leads to constipation in the child. This is why you need to develop a kind of a food diary. Create a list of foods and beverages that your child consumes over the course of a week. You may be surprised at the amount of food eaten. It helps to detect dietary deficiencies and certain dietary patterns. Appendix 3 displays a forum that can monitor food consumption on a weekly basis.

Introducing new foods should take small steps:

- Identify well the new foods that the child will try;
- Allow the child to explore the texture and the smell first, without expecting them to eat it;
- Introduce food on a separate plate;
- Encourage the child to lick or lubricate the lips;
- Reward or praise him for every step they take;
- Try to stay calm, relaxed and positive.

Begin with small portions to encourage success and don't insist and upset them. Maybe your child prefers to eat more frequent snacks than 3 large meals.

SLEEPING DISORDERS

Sleep disorders that can occur in children with autism include difficulties in falling asleep, poor sleep quality, waking up at night, sleepwalking, getting up early in the morning, and irregular sleep patterns. The researchers documented a link between sleep difficulties and behavioural regulation - behavioural challenges.

In the room where the child sleeps, the chance of excitement should be reduced, as follows: light, sounds, visual stimuli. Electronic devices and televisions need to be removed or covered. It would be advisable for parents to put toys aside so as not to have children distracted. Then, make sure the bed is comfortable. It is necessary to take into account all the sensory differences and to check whether the room is too warm. Parents need to establish a constant sleep routine and include relaxation activities that do not trigger brain function or wakefulness in the child. This should be done visually, through a poster or chart so that the activities that will be done can be redrawn. See Chapter 5 for more information on visual routines.

High levels of anxiety make sleep impossible. One idea is to have a "care box" next to the bed, where you can "empty" the worries from the child's head before going to bed. They may be written by the child or by the parent (Fig. 6.8). A diet that can improve sleep, shown in Figure 6.9, is also part of the care routine.

Figure 6.8 Worry Box

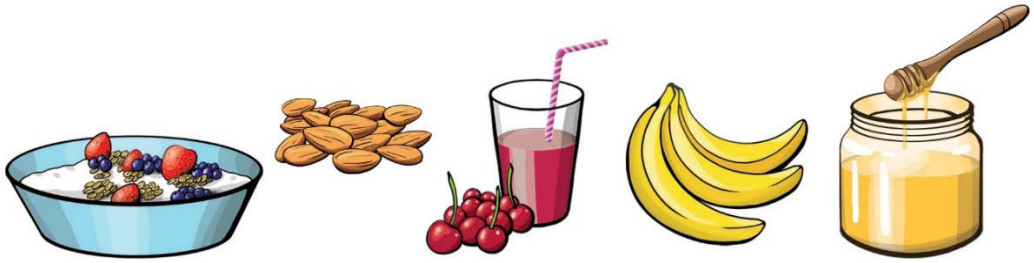

Figure 6.9 Food that Improves Sleep

Melatonin can be prescribed by a doctor to help the child fall asleep only if it is not naturally produced enough in the body. Medications that relax slowly can be prescribed if sleep is impaired. Above all, a good "sleep hygiene" should be established.

CHAPTER 7. SEXUAL DEVELOPMENT AND SEXUALITY EDUCATION OF CHILDREN AND YOUNG PEOPLE WITH AUTISM

SEXUAL DEVELOPMENT IN CHILDREN AND YOUNG PEOPLE WITH AUTISM

Sexuality is experienced and lived through thoughts, fantasies, beliefs, behaviours, desires, values, practices, and relationships. Sexuality includes all of these dimensions, but not all are experienced or lived through. Sexuality is strongly influenced by the interaction between biological, psychological, social, economic, political, cultural, legal and religious beliefs.

People with spectrum conditions have sexuality regardless of the type and degree of disability. The ability to participate in the sexual life of a person with a disability depends on:

- Their functional and social understanding,
- Understanding personal sexual boundaries,
- Ability to make decisions,
- Understanding the consequences of sexual activity.

Myths regarding sexuality of people with disabilities:

- They are asexual;
- They have an increased sex drive;
- They are not subject to sexual discrimination and abuse;
- They do not need sexuality education;
- They cannot make decisions on their own;
- Sexuality education can encourage sexual intercourse;
- They cannot establish and maintain relationships;

Sexual development begins much earlier than puberty. One of the reasons why sexuality education is needed is the fact that understanding healthy sexual development plays a key role in preventing sexual abuse. Many people do not know what to expect from the development of sexuality and therefore cannot distinguish between appropriate and inappropriate behaviour. In that regard, they need to have knowledge about sexual development, i.e. which behaviour is appropriate and at what age.

STAGES OF TYPICAL SEXUAL DEVELOPMENT

DEVELOPMENTAL STAGE: INFANTILITY (0-2)

Typical behaviour

- Curiosity about one's own body, including the genitals
- Touching the genitals, including masturbation, in private and public space
- They are not aware that they should not take off their clothes anywhere

Encouraging typical behaviour

- Teach them about the basic parts of the body, especially the genitals
- Explain the basic differences between male and female bodies
- Teach children how to establish proper relationships with their peers
- Provide simple answers to questions related to the body and its functions

DEVELOPMENTAL STAGE: EARLY CHILDHOOD (2-5)

Typical behaviour

- Occasional masturbation. It usually occurs as a sedative behaviour, not as a sexual pleasure. It can be displayed in private and public space
- Exploring sexual characteristics through children's play with peers. This includes playing "man and woman" and "a doctor".
- Asking questions about sexuality and reproduction, such as "Where do babies come from?"
- They may be curious about adult body parts (want to take a bath with their parents, touch their mother's breasts, etc.)
- They are not aware that they should not take off their clothes anywhere (they can take off their diapers or clothes)
- They use jargon for body parts and their functions

Encouraging typical behaviour

- Provide basic reproductive information (development of babies in the mother's womb)
- Provide basic information about the term "privacy" and when certain things are appropriate or inappropriate.
- Explain the differences between a pleasant and an unpleasant touch (for example: a hug that is welcomed and pleasant, as opposed to an unwanted and uncomfortable hug)
- Teach them to set boundaries. Explain to them that their body belongs only to them and that they can say no to unwanted and unpleasant touch.

DEVELOPMENTAL STAGE: MIDDLE CHILDHOOD (5-8)

Typical behaviour

- He continues to use jargons and jokes to describe body parts and their functions
- He understands gender roles better. He can behave in a more "gender-like" way and exhibit certain behaviours, associated with learned gender norms (girls like to wear dresses)
- They may engage in sexual games or activities to explore sexuality and the bodies of peers of the same or opposite sex.
- Masturbation. Some children may touch their genitals because of the pleasure they experience. This happens much more often in private than in public.

Encouraging typical behaviour

- Provide appropriate gender information and how children experience their gender identity.
- Explain the basics of reproduction, including the role of sexual intercourse
- Discuss the physical changes that will occur during puberty.
- Explain that there are different types of sexual orientation, such as heterosexual, homosexual, and bisexual.
- Teach them that masturbation should be practiced in private.
- Inform them about their own rights (your body belongs only to you) and responsibilities (treat boys and girls equally) related to sexuality.

DEVELOPMENTAL STAGE: LATE CHILDHOOD (9-12)

Typical behaviour

- With the onset of puberty, there is an increased need for privacy and independence.
- They are interested in relationships. They may want to have a boyfriend or girlfriend.
- Curiosity about adult bodies. Children like to see adults naked or undressing, which includes sexually explicit media research (TV, movies, magazines, Internet portals).
- Social norms for masturbation became clearer and more understandable. Masturbation is practiced only in private.

Encouraging typical behaviour

- Provide additional information on the physical changes of the body in puberty.
- Inform children about the social and emotional aspects of puberty.
- Support them in dealing with the new emotions and needs they may be experiencing.
- Provide information appropriate to their age, sexuality, sexual behaviour, sexually transmitted infections, etc.
- Help them understand that they have a right, but also a responsibility for the friendships and relationships they establish.

DEVELOPMENTAL PHASE: ADOLESCENCE (13-18)

Typical behaviour

- Pleasure masturbation continues
- They become self-aware. Difficulties may arise with one's own body image and self-esteem.
- Peer influence continues
- Joining the group is important
- They may have sex
- Presence of sexual desires and fantasies

Encouraging typical behaviour

- Education for proper establishment and maintenance of relationships
- Information on safe and satisfactory sexual intercourse

PROGRAM FOR SEXUALITY EDUCATION OF CHILDREN AND YOUNG PEOPLE WITH AUTISM

The educational program for sexuality education of people with autism spectrum conditions includes:

- Body parts;
- Private and public space;
- Growth and development (puberty)
- Types of touches (pleasant and unpleasant touch, giving consent);
- Types of relationships (rules and behaviours);
- Sexual health (Sexual feelings, sexual intercourse, contraception)

Sexuality education programs for people with disabilities often lack components that address the unique social skills needs of people with autism spectrum conditions. In less developed countries, sexuality education is often avoided for fear that sex conversations will stimulate the desire to experiment, that parents/professionals may not be able to answer the questions appropriately, or fear that people with the spectrum may be sexually abused or exploitation.

The benefits of sexuality education include increased self-confidence, greater independence, the ability to take responsibility for one's own sexuality, reduced risk of sexual abuse, sexually transmitted infections and unwanted pregnancies, improved behaviour, and the application of acceptable sexual expression.

Recommendations for conducting sexuality education

- ✓ Practice what has already proven functional.
- ✓ Introduce basic examples for respecting privacy.
- ✓ Estimate children's knowledge.
- ✓ Always start with body parts, private and public space, growth and development
- ✓ Include sexuality education in the individual education plan
- ✓ Provide one-on-one instructions
- ✓ Individualize
- ✓ Point out behaviour models
- ✓ Focus on things that ought to be done instead of those that should not.
- ✓ Be precise and explicit.
- ✓ Apply visual support, described in Chapter 5
- ✓ Provide privacy
- ✓ Repeat, repeat, repeat
- ✓ Check whether the person has understood information.
- ✓ Apply social stories intentionally prepared for the person.
- ✓ Apply role play.

The same evidence-based practices, strategies, and support used to learn other skills (play, work, etc.) should be used - visual schedules, work systems, social narratives, and so on. Figure 6.1 and 6.2 show an excerpt from a social story about private body parts. Privacy is an important issue in adolescence in terms of adolescent safety with autism. People with spectrum conditions should develop self-care skills so that in the future they can take responsibility for themselves, increase their independence, and be able to enter relationships and relations with self-confidence.

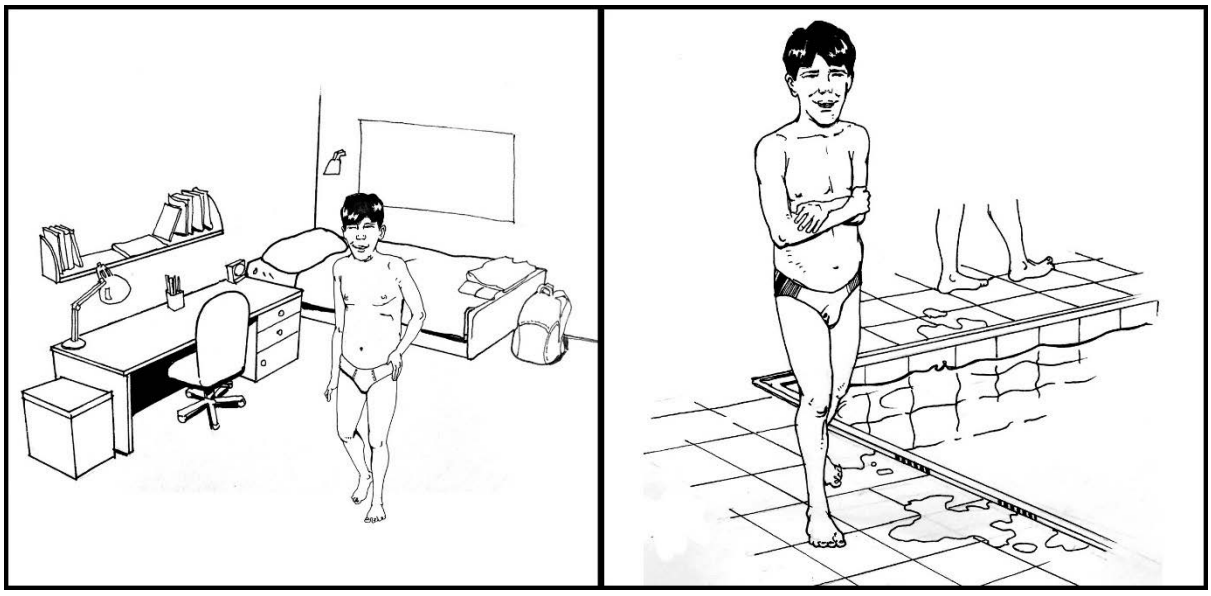

Fig. 7.1 Private parts are covered with panties or bathrobes. No one can see my private parts. Excerpt from Stankova T. Sexuality education of People with Autism Spectrum Disorders - application of the Social stories technique. Master Thesis, Faculty of Philosophy: Skopje, 2018, 1-227. Published with the permission of the author.

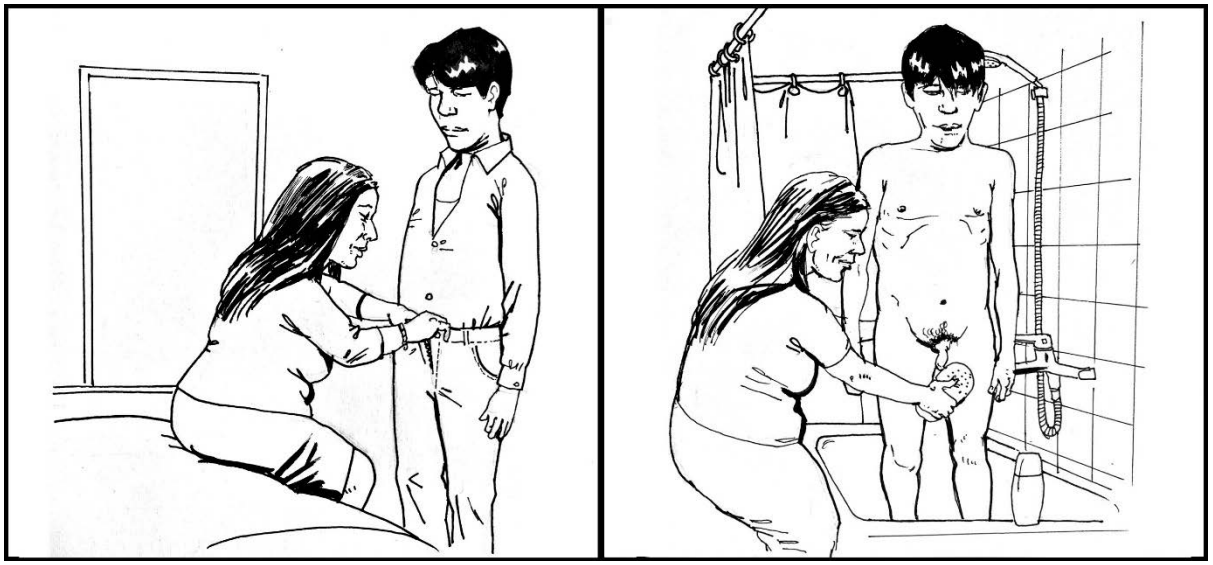

Fig. 7.2 My private parts are just mine. Only mom, dad and the doctor can see and touch my private parts. It is okay for mom to see and touch my private parts when she helps me take a bath or get dressed. Excerpt from Stankova T. Sexuality education of People with Autistic spectrum disorders -application of the technique Social stories. Master Thesis, Faculty of Philosophy: Skopje, 2018, 1-227. Published with the permission of the author.

Sexuality education stories for people with autism and intellectual disabilities are part of the application developed by the United Nations Population Fund (UNFPA), which will be free and available for use. The official UNFPA web site mk.unfpa.org will provide information on how to access the application.

The consistency of the approach helps the person with autism. Leave your (non-autistic) decisions, prejudices or questions aside - they may be pointless to an adolescent with autism. Be clear: what are you trying to teach them? What you do should be at an appropriate level, and understandable to the individual. Focus on independence and self-sufficiency as they will soon become adults.

The menstrual cycle is another important issue for adolescent girls with ASC. The attention should be focused on the education regarding the independent care for hygiene during the menstrual cycle (Fig. 7.3).

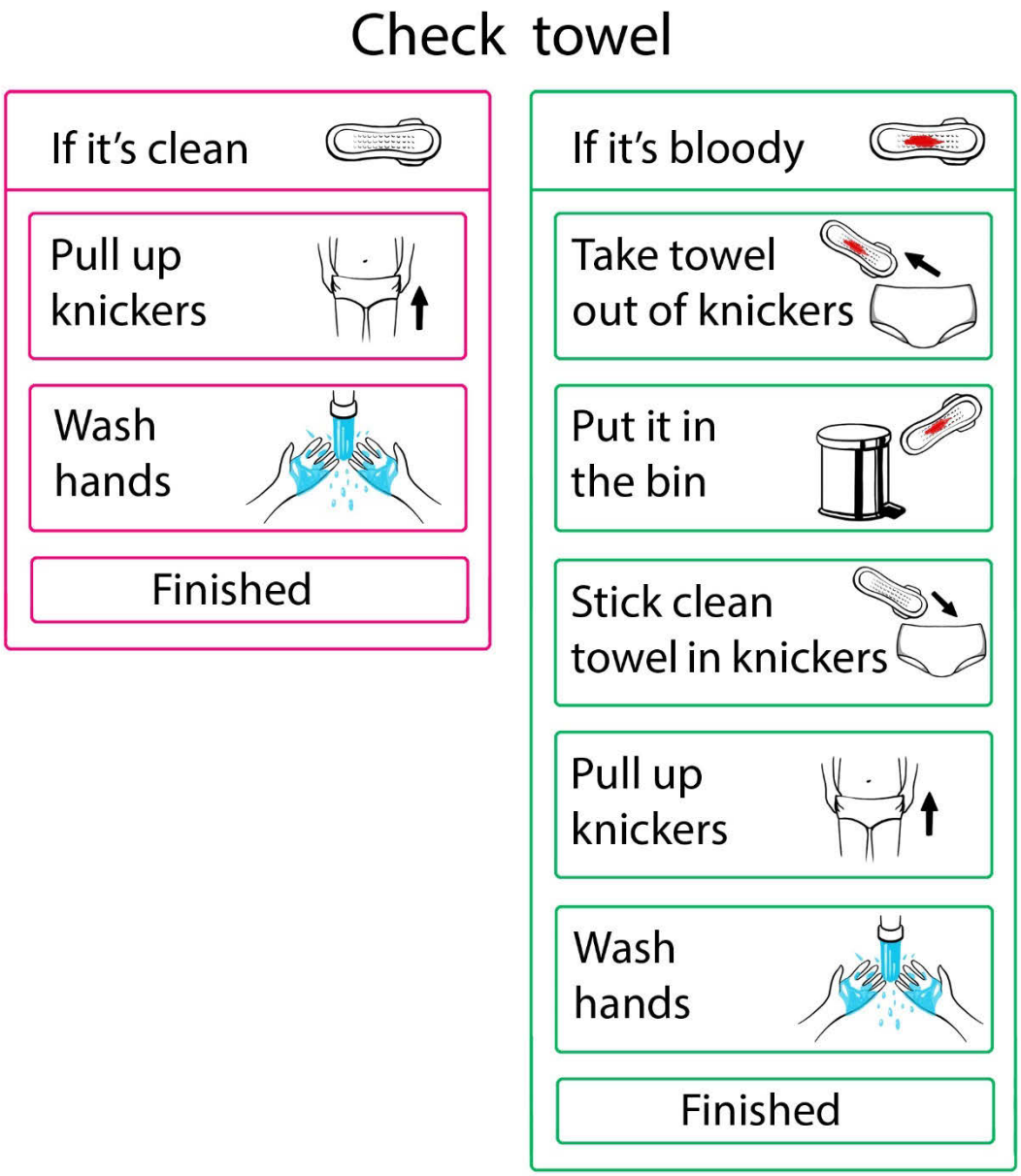

Fig. 7.3 Visual layout of toilet decisions during the menstrual cycle

Masturbation is an important element of sexuality education in people with ASC. Important questions that arise include:

- Where and when to masturbate?
- Where and when not to masturbate?
- What to do sometimes (or what not to do)?

Provide pictures of sequences/visual support that shows what needs to be done:

- Visual support that shows where appropriate places are (personal, own bathroom);

- Visual support that shows inappropriate places;
- Consistency;
- Language ("private time").

Fig. 7.4. Marking a suitable place for masturbation

The approach to learning these new skills is the same as any other approach applied to adopting new things. We should ignore shyness and personal prejudices. We need to present new things as rules of conduct for people with ASC. At the same time, you should not expect that once learned work or rule, the person will be able to apply it in any environment. If you have taught them how to deal with it and how to deal with sexual challenges at home, it does not mean that the person will know how to apply this knowledge at school or at his grandmother's home. To facilitate the process wherever necessary, provide visual support (posters, pictures, photographs, cards, social stories).

The period of puberty and adolescence can bring new challenges and can be difficult, confusing, or frightening for all adolescents and their families, but if appropriate support is provided, these challenges can be overcome.

Sexuality education stories for people with autism and intellectual disabilities are part of the application developed by the United Nations Population Fund-UNFPA, which will be free and available for use. The official UNFPA web site mk.unfpa.org will provide information on how to access the application.

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APPENDICES

APPENDIX 1

Overview of most common social assessment instruments

Name of assessment	Description	Areas measured
TRIAD Social Skills Assessment (Stone, Ruble, Coonrod, Hepburn, Pennington, Burnette, & Brigham, 2010) TRIAD = Vanderbilt Treatment and Research Institute for Autism Spectrum Disorders	A tool designed to assess knowledge and skills in three social areas: Cognitive, behavioural, and affective. The tool is for intervention planning for verbal children ages 6–12 years who have first grade–level reading skills. It is criterion based, and information is gathered through parent and teacher interview and direct sampling of skills.	Cognitive: Understand others' perspectives Behavioural: Initiate and maintain interactions Affective: Understand basic and complex emotions
Autism Social Skills Profile (Bellini, 2006)	A criterion-based tool designed for intervention planning in which family members and interventionists rate a student's skills and behaviours in social situations. There are 49 items rated on a 4-point Likert scale based upon how often the skill is observed and whether the skill is present without assistance from others.	Social
The Integrated Play Group Assessment, Second Edition (IPG; Wolfberg, 2009)	A tool designed to assess and monitor the cognitive, communication, and social dimensions of play behaviours in children with autism. It is based on a prescribed intervention model of the same name, integrated play groups (IPGs). The informal assessment is used to obtain a baseline, design integrated play groups, and monitor intervention effectiveness. There is growing evidence validating the efficacy of the IPG model to promote play in children with autism	Cognitive Communication Social dimensions of play
Communication and Symbolic Behaviour Scales (CSBS) and Communication and Symbolic Behaviour Developmental Profile (CSBS DP) (Wetherby & Prizant, 1993, 2002)	A tool designed to examine early social-communicative and symbolic skills across various communicative contexts. CSBS is intended for children whose functional communication is between 8 and 24 months of age. The CSBS DP is a checklist to screen children at 1-year medical check-ups and is based on both parent report and face-to-face evaluation. The tool provides a starting point for planning, identifying areas for further assessment, determining the efficacy of interventions, and documenting changes in behaviour over time.	Gestural communication Vocal communicative means Reciprocity Affective signalling Symbolic behaviours
Functional Communication Profile, Revised (FCP-R; Kleiman, 2003)	A tool specifically designed for students with moderate to severe developmental delays. The FCP-R	Attentiveness Non–oral communication

	yields an overall inventory of the individual's communication abilities, mode of communication (e.g., verbal, sign, nonverbal, augmentative), and degree of independence. Information is gathered through direct observation, teacher and caregiver reports, and one-to-one testing. There are 10 subscales related to communication.	Comprehension Use of various symbol systems Pragmatics (e.g., communicative intent and conversational skills)
The Social Communication Questionnaire (SCQ; Rutter,Bailey, Lord, & Berument, 2003)	A standardized parent report tool designed to assess children with autism over the age of 4 years with a mental age over 2 years. There are 40 yes/no items, which can be completed in less than 10 minutes by a parent or other caregiver. The tool can guide general intervention recommendations. There are two versions: current and lifetime.	Communication Social functioning Restricted, repetitive, and stereotyped patterns of behaviour
The Assessment of Social and Communication Skills for Individuals with Autism Spectrum Disorder, Revised (ASCS-2, Quill & Brusnahan, 2017)	The ASCS-2 is a criterion-referenced, non-standardized tool designed to assess social and communication skills in children and youth with autism and to assist in intervention planning. The ASCS-2 is structured so that it can be used to assess individuals of all ages and all developmental levels and was developed for professionals who are responsible for the evaluation, intervention planning, and progress monitoring of social and communication skills.	Basic skills Social skills Communication skills Community skills

APPENDIX 2

Categories of play and leisure activities

Category of activity	Structured (closed-ended) activities	Unstructured (open-ended) activities
Exploratory	Cause-and-effect toys, wind-up toys, kaleidoscope	Sand, water, snow, rocks
Physical	Sports games with clear roles and rules	Bicycles, roller skates, swings, playground
Manipulative	Puzzles, pegboards	Playdough
Constructive	Lego models, train tracks	Legos, blocks, building materials
Art	Stencils, paint-by-numbers	Drawing, collage, painting
Literacy	Books, audio books, computer, video games	/
Sociodramatic	Theatre, mime	Dress-up, play with miniature figures, dolls, animals
Music	Listening to music, playing an instrument	Singing, dancing
Games	Board games, card games Games with rules (e.g., Hide-and-seek, chase)	/

Weekly diary to track the foods you eat. Write in the foods you eat and mark the corresponding check boxes for each serving from a food group to track weather you are meeting recommended servings.							
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Milk and Milk Prod. Vegetables Fruits Grains Meat & Beans	○○○ ○○○ ○○ ○○○○○○ ○○	○○○ ○○○ ○○ ○○○○○○ ○○	○○○ ○○○ ○○ ○○○○○○ ○○	○○○ ○○○ ○○ ○○○○○○ ○○	○○○ ○○○ ○○ ○○○○○○ ○○	○○○ ○○○ ○○ ○○○○○○ ○○	○○○ ○○○ ○○ ○○○○○○ ○○
Breakfast							
Snack							
Lunch							
Snack							
Dinner							
Evening Snack							