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What to do with pekuliars? Handbook for teachers of children with different developmental patterns



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#### Preface

In almost every classroom nowdays, teachers are faced with pupils who, for whatever reason, have an atypical development. The aim of this handbook is to provide teachers with a brief summary that will enable them to get to know and understand pupils with different developmental paths and thus make their work easier. Atypical development often results in such behavioural and attitudinal manifestations that for an outsider can easily be misinterpreted. As a result, due to the difficulties of atypical development teachers with no or insufficient knowledge are often helpless, and may not be able to interpret the pupils' manifestations in the context of the situation. Atypical development refers to the development of social, cognitive, emotional abilities that differ from the average, due to various interactions of genetic, biological and environmental factors. Special educational needs (SEN) refers to a group of children/students who show atypical development in some area.

But what exactly is the concept of SEN? The extent to which a given developmental disability manifests visible characteristics varies widely. In the case of a physical disabled child it is obvious for everybody that this child cannot do the same exercises at physical education class as his/her typical developmental mates. For educators and even for parents is much more difficult to recognize the "invisible" disabilities and often happens that they try to manage the sympthoms without having any idea about the disorder. We have to mention that for ex. if students with attention difficulties have to maintain their attention for a longer period is just like asking a blind person to evaluate visual information. Out of the wide range of SEN students, in the present work we focus on students with specific learning disability, ASD, ADHD and behavioural disorders, as they are the most represented in inclusive education.



1. WHAT SHOULD WE KNOW ABOUT STUDENTS WITH ATTENTION DEFICIT HYPERACTIVITY DISORER (ADHD)?

### INTRODUCTION

As an educator, you may be familiar with the situation where a student is not paying attention in class/lesson as we would expect, chattering constantly, lacking equipment, standing up in class/lesson without being asked, running around the room, stumbling into the lesson, answering before the question has been asked. We are well aware that all this is age-specific, especially for a younger child. But at what point does it cross the boundaries of typical development? How can we define it?



## **1.1 BRIEF DESCRIPTION OF ADHD**

The term ADHD, which is becoming more and more common in everyday language, is actually an acronym for Attention Deficit Hyperactivity Disorder, which refers to the co-occurrence of attention deficit disorder and hyperactivity. Although attention deficits were recognised in the late 1800s, the term ADHD has only been in use since 1994. In order for a child to be considered to have ADHD, a specific set of symptoms (at least six or more) must have been present for a long period of time and must be specific to the hyperactivity and attention deficit (see Table 1).

Inattention	Hyperactivity and impulsivity
• Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or with other activities.	• Often fidgets with or taps hands or feet, or squirms in seat.
• Often has trouble holding attention on tasks or play activities.	• Often leaves seat in situations when remaining seated is expected.
• Often has trouble holding attention on tasks or play activities.	• Often runs about or climbs in situations where it is not appropriate (adolescents or adults may be limited to feeling restless).
• Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., loses focus, side-tracked).	• Often unable to play or take part in leisure activities quietly.
• Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., loses focus, side-tracked).	• Is often "on the go" acting as if "driven by a motor".
• Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., loses focus, side-tracked).	• Often talks excessively.
• Often loses things necessary for tasks and activities (e.g. school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses, mobile telephones).	• Often blurts out an answer before a question has been completed.
• Is often easily distracted	• Often has trouble waiting their turn.
• Is often forgetful in daily activities.	• Often interrupts or intrudes on others (e.g., butts into conversations or games)

Table nr. 1. Symptoms of ADHD (APA, 2014)

It is not an illness that can be "cured" with appropriate therapeutic treatment, and - although for those who aren't familier with the disorder, the suspicion of neglect or a faulty parental attitude

may arise - we think it is important to emphasise that this is not the case with ADHD, often the person is disturbed and embarrassed by his or her own behaviour. The symptoms are caused by the atypical development and functioning of the nervous system, that's why it is classified as a neurodevelopmental disorder. In terms of symptoms, it is associated with significantly poorer attentional processes than expected for age, as well as with a markedly hyperactive behaviour and impulsivity. Although the term ADHD is used to refer primarily to a problem of attention, the disorder affects many areas of attention that relate to the functioning of the so-called **executive function(s)**.

To understand what we call executive functions, imagine that in two weeks' time it is your child's birthday and you want him to celebrate it with his peers. We need to think about how we can make this happen: first we need to decide what day, what time and where we want to celebrate, we have to make invitations, send them to the right people, we have to also decide that what kind of "menu" (sandwiches or pizza, etc.), what kind of cake should be, whether we order the them or make it ourselves, if we order it, where and when should we order, if we make it, how to get the ingredients, etc.

In solving such complex tasks, we use executive functions, as we plan, organise, we develop strategies, decide, and also we have to inhibit actions that are irrelevant at the moment (for example, not buying theatre tickets for that day), so that the birthday party goes smoothly.



Executive functions are therefore needed for tasks that require planning and decision making; it also needs for identifying and correcting errors; for situations where new behaviours need to be produced; for situations where established habits need to be overrided, where information needed to achieve a goal needs to be managed simultaneously. When executive function is inhibited for some reason, this manifests itself in everyday life as distractibility, forgetfulness,

easy distraction, difficulty remembering successive instructions, difficulty sequencing and completing tasks, frequent abandonment of equipment, interrupting others.

Because of this, children with these problems are labelled "absent-minded professors" at best, and unmotivated, disconnected, lazy, stupid students at worst.

These problems are caused by differences in brain functioning. It is therefore important to keep in mind that in some cases when the child behavies in a distruptive way it is not because the child is uneducated, but because of a difference in the way the nervous system works that is causing the pattern of behaviour.



Figure nr. 1 – The symptoms of ADHD Source: https://www.verywellhealth.com/adhd-attention-deficit-hyperactivity-disorder-included-definitionsymptoms-traits-causes-treatment-5084784

However, executive dysfunction is not only found in ADHD, but also in other developmental disorders such as autism, Tourette syndrome and, according to recent research, learning disabilities.

The early identification of the problem, an accurate diagnosis and an appropriate therapy are crucial, given the fact that in the long term it can cause serious problems in both everyday social life and educational performance.

## **1.2. EDUCATIONAL IMPLICATIONS FOR ADHD**



## **1.2.1 WEAKNESSES IN LEARNING**

It is very important that childhood disorders, including ADHD, to be detected early and treated appropriately. Otherwise in long term it can lead to very serious consequences. That is why it is important for teachers to be aware of the existence of the disorder, its determinants, its manifestations and, of course, the possibilities for its appropriate treatment. Although all children need attention, a person with ADHD in particular requires increased patience and attention. It is important for the teacher to keep the following points in mind when teaching:

- Children with ADHD find it difficult to maintain attention when they are faced with boring or monotonous tasks.
- He needs to be told what to do repeatedly, complex instructions should be avoided, and it is important his environment to be flexible but consistent
- If a stimulus interrupts a child with ADHD, he/she will need much longer time to be back on task
- Students with ADHD often have difficulties in learning, which include problems with memory and reading comprehension.
- ADHD learners often experience difficulties in their social interactions and communication, which can lead to misunderstandings, conflicts and can make it difficult to maintain relationships, communicate and work in groups.
- Impulsive, disruptive behaviour can also occur frequently, leading to inappropriate behaviour and making the learning process more difficult

It is important to point out that these weaknesses do not mean that people with ADHD cannot be successful, but they highlight the importance of psychoeducation. The aim is for teachers to recognise the symptoms, to help the students find solutions to their difficulties, to highlight and develop their strengths.

Research shows that people with ADHD drop out of education earlier, have lower qualifications and are more likely to have problems at work than their typical peers. They are more unpopular among their peers, have few or no friends, and are more likely to end their married life in divorce. According to forensic data, adolescents with ADHD are four times more likely to be arrested than their peers of the same age.



### 1.2.2. STRENGTHS IN LEARNING

The strengths-based approach, as the name suggests, is based on the view that each individual has resources that can be deployed in different areas of life to achieve success. It aims to 'flourish' rather than simply survive, assuming that greater success can be achieved by exploring a person's best qualities than by acting to overcome individual weaknesses and shortcomings.

Strengths-based education is all about educators themselves discovering their own best abilities first. Secondly, by developing and applying these skills, they can also identify children's strongest abilities and thus encourage them to achieve unprecedented success in their learning. It is very important for teachers to recognise and highlight the strengths of children with ADHD, as these are the pillars that can help them significantly in their learning and daily life.

While every child has different strengths, we know that children with ADHD are all about movement and variety. It is therefore advisable to set them tasks that take these into account, in addition to adapting them to their individual abilities. During tasks requiring sustained attention, their attention can usually be maintained by many new and interesting stimuli. Children with ADHD are often creative and can build on their unique insights, novel associations and vivid imagination. If something interests them, they are persistent, and they are eager to tackle challenges. Children with ADHD are often spontaneous and energetic, quick-thinking, which allows them to play creatively and cheerfully, and to deal with unexpected situations appropriately.



## 2.WHAT SHOULD WE KNOW ABOUT LEARNING DISABILITIES?

## **INTRODUCTION**

Nowdays in this increasingly challenging world we often meet that a student fails to perform in school up to expectations and the teachers tend to immediately give some "label" in order to explain the student's underachievement. Such a common label is "not performing because he is lazy, not practising enough." "He doesn't care, he's not motivated at all, he's performing like this because he's stupid". "He must be dyslexic, that's why he can't do it". These frequent statements by teachers and parents reflect those misunderstandings and uncertainty that accompanies the phenomenon of underachievement in schools.



## 2.1 BRIEF DESCRIPTION OF LEARNING DISABILITIES

There are cases where, for whatever reason, the mastery of cultural

techniques is hindered, despite the right intellect. A learning disability is a severe difficulty in mastering basic skills areas, i.e. reading, writing and/or arithmetic, despite average or outstanding intelligence, appropriate educational conditions (timing, methodology, circumstances) and intact sensory functions, leading to underachievement in school. Poor school performance in this case is not caused by the environment or education, is not the result of a general/overarching ability disorder, nor is it triggered by the child's attitude to learning

(e.g. laziness), but is related to a different development of the nervous system. Affected children have different strategies for processing information, understanding and remembering things. Specific learning disabilities accompany children throughout their school careers, so the identification and intervention to develop appropriate compensatory strategies is a key task for schools. We should also be aware that the number of children with these problems is much lower than teachers generally believe. Around 5-15% of school pupils have a learning disability, the most common of which is reading disability (80% of learning disabilities).

#### Dyslexia



Reading disorder (dyslexia) is a specific learning disorder of neurobiological origin, characterised by difficulties in learning to read and write, poor word recognition, inaccurate and slow reading, most often associated with spelling disorders.

Dyslexia symptoms in general:

- Lack of linguistic, phonological awareness of the sounds of words, sound order, rhymes, syllable order
- Difficulty in 'decoding' words in identifying separate words
- Difficulty in storing words spelling
- Difficulties with sequencing: order of letters in words read and written, order of numbers (e.g. sing-sign, god-dog, 12-21)
- Difficulty in reading comprehension
- Difficulties in expressing ideas in writing
- Difficulty in spatial and temporal orientation (left-right, up-down, early-late, yesterday-tomorrow, months-days)
- Uncertainties in the use of hands
- Handwriting difficulties
- Difficulties in learning mathematics: uncertainty about the sequence of operations, wrong directions, problems understanding mathematical vocabulary
- Similar problems in the family





Writing is one of the most difficult cultural techniques, it is a highly complex operation that requires the coordination of multiple neural networks to achieve the final production.

Two factors are intertwined in the definition of dysgraphia:

- Execution of writing movements (handwriting disorder): the process of handwriting requires the integrated functioning of legibility, automaticity (producing legible letters quickly and efficiently), orthographic coding, and graphomotor planning skills.
- Disorder in the application of spelling rules (dysorthography): spelling is very closely intertwined with language processing, encoding of sound structures and sound relationships, and the amount of prior knowledge, experience, comprehension and visuomotor integration.

The disorders of the two processes can occur in isolation, but also together, so it is worth treating them separately.

### Dyscalculia



In dyscalculia, there is a significant delay in the development of numerical knowledge, number sense, number and operation concepts, basic operations and basic functions (spatial-visual system, central executive system, working memory, speech and language, thinking functions) in relation to intellectual performance, age (grade level). Consequently, the acquisition of higher mathematical concepts, the process of acquiring and applying mathematical

knowledge, problem solving in everyday life situations may be more difficult.



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Children's problems take many different forms, are characterised by diversity and variety, and show different characteristics as they get older, i.e. they can manifest themselves in different ways. Although children with a (specific) learning disability may perform poorly in certain areas, they may be able to excel in some areas of learning and be gifted in others, despite their difficulties. This paradoxical learning situation causes a lot of tension and misunderstanding, both for the pupil concerned and for the parent or teacher.

## 2.2 EDUCATIONAL IMPLICATIONS OF LEARNING DISABILITIES



## 2.2.1. WEAKNESSES IN LEARNING

Difficulties in learning disabilities cover a very broad spectrum and can combine in different ways and show individual development for each pupil. It should also be taken into account that the onset of symptoms may vary between different ages, and therefore the following sections describe the typical manifestations of the disorder in two age groups: lower grades and upper secondary school.

#### Typical manifestations of learning disabilities in **lower grades**:

Writing, spelling, reading disorders (dysgraphia, dyslexia):

- Students are slow to learn letter-sound correspondence and reading together;
- Reversal (b-d), inversion (u-n) of letters; not intermittent but persistent
- Frustration when reading;
- Read by others the text the learner understands it but, he/she has problem when he/she reads by him/herself;□ lack of linguistic and phonological awareness of the sounds of words, the order of sounds, rhymes, syllable order;





- Difficulty in sharing experiences, initiating or continuing a story (narrative), completing it;
- Learner has difficulty understanding/following instructions;
- Using simple sentence structures.

### For learning disabilities in mathematics (dyscalculia):

- Difficulty in recalling events and facts;
- Difficulty in using mathematical symbols;
- Difficulties in understanding spatial and temporal relationships (left-right, up-down, early-late, yesterday-everywhere, months-days);
- Difficulty in using analogue clocks;
- Difficulty counting with uneven rhythm;
- Difficulty in estimating quantities;
- Uncertainty of using local value;
- Pupils counting on their fingers;
- Lack of knowledge and application of mathematical concepts;
- Difficulty in interpreting mathematical signs, operations and rules;
- Not memorising the remainder when performing operations.

Typical manifestations of learning disabilities in **upper secondary school**:

Writing, spelling, reading disorders (dysgraphia, dyslexia):

- Decoding weakness: difficulty reading long, rare words;
- Slower than average speed, misreading of rare words, letter substitutions, lack of interpretive reading;
- Difficult, less fluent reading aloud;
- Pupils have difficulty in learning spelling rules and strategies (difficult to differentiate speech sounds, phoneme length, partial diacritics, traditional spelling, etc.);
- Pupils are better orally than in writing (in general);
- Avoidance of reading, underachievement in subjects relying on reading and writing, turning to practical subjects





- Pupils have problems with articulation in their written work, find it more difficult to express their ideas in writing than orally;
- Reading, writing avoidance;
- Spoken language is much less varied, with difficulties in finding words and concepts;
- Highlighting incorrect information from the text;
- Difficulty in summarising and making points;
- Learners find it more difficult to learn new knowledge or to recall previously learned knowledge;
- Difficulty in organising work and tasks;
- Difficulty in learning foreign languages;

#### For learning disabilities in mathematics (dyscalculia):

- The measurement tasks are difficult;
- Difficult to interpret text tasks;
- The student cannot use the operation required to solve the text tasks;
- Difficulty in keeping and remembering sequences;
- Difficulty in orientation in space and on maps;
- Difficulty in making sense of mathematical problems;
- Inaccurate performance of operations;
- Failure to solve mathematical problems;
- Difficulty in applying mathematical rules
- Conscious avoidance of mathematical problem situations;
- Difficult head counting;
- Frequent errors in mathematical operations and rule application;
- Difficulty in managing money;
- Avoidance of math-related problem situations

In addition, students with learning disabilities often experience a sense of failure, inadequacy, rejection, which can lead to indifference or resistance to school performance expectations, selfesteem problems, and problems with social interaction and adjustment of varying types and degrees. These characteristics can lead to increased vulnerability to social integration as the





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child ages. Signs that the nervous system is overloaded can also be seen in the fact that pupils tend to be more fatigued, more sensitive to weather changes, more difficult to tolerate noise, more easily overloaded sensory, more difficult to cope with the tension of waiting, and their activation levels fluctuate more, are more anxious, need more frequent rest, breaks, and support, more need for a stable framework of activity, clear and easy to follow rules, positive feedback, reinforcement of successful performance, praise.



## 2.2.2. STRENGHTS DURING LEARNING

First of all, it is important to be aware that a different pattern of development of abilities from the typical, socalled atypical development, is not bad, it just means

different functioning. The pattern of abilities of the children concerned is characterised by a combination of weaknesses and strengths, the latter being the basis on which therapy needs to build and which successfully supports the learning process.

### In lower grades, the student's strengths are:

- performs easily in so-called higher level thinking tasks, such as social games, drawing conclusions from observation of certain natural phenomena, practical problem solving;
- quickly and well understands new concepts and theories, e.g. scientific and technical concepts, how they work, and is even happy to demonstrate this;
- has a large vocabulary (but in narrow areas and difficult to activate); this is often revealed in informal conversation related to his interests, but he still has difficulty finding words in class and when asked questions;enjoys jigsaw puzzles;
- has a talent for making and building models;





 is excellent at interpreting stories when read or told, and this is evident in his facial expressions, gestures, and his questioning of the text, and even thinking the story through.

#### In upper grades and secondary school, the student's strengths:

- has a highly developed imagination, always coming up with new solutions, curiosity,
   e.g. when designing a science experiment or dramatising a historical event;
- excels in thinking skills, abstraction, theorising, imagination and causal reasoning;
- learns much more easily what can be learned by understanding than by memorisation,
   e.g. recites historical context but has difficulty in assimilating certain historical vocabulary, or recalls years inaccurately, or is unable to recall definitions accurately;
- can easily see the connections
- is able to comprehend at a high level when read aloud;
- he is very involved in those topics that he is interested in, are important to him
- often shows surprising excellence in subjects that do not require much reading or in other subjects related to theorising (philosophy, biology, social sciences or fiction)
- has a very high capacity for learning, especially in areas in which he/she is interested; often takes on extra work in areas in which he/she is interested, e.g. leading a team on a project and then reporting back to others; can achieve significant results, especially in highly specialised areas such as medicine, law, finance or basic sciences;
- can write excellently when it is the text, not the spelling, that is important; can articulate feelings and ideas well;
- is successful in all areas not related to simple memorisation, such as word recall, definitions, simple recall of years, formulae;
- is talented in generating high quality theories and original perspectives;
- is characterised by creative thinking.

The students concerned often experience strengths alongside their weaknesses, but their fluctuating, unpredictable and sometimes inconsistent performance also makes them feel insecure. Sometimes they underestimate their abilities and knowledge and over-generalise. Because they have problems with reading, writing and arithmetic, they think they can't do anything and are not good at anything. The fear of not being able to live up to expectations





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often undermines even their good qualities. Inconsistent (silly) errors are difficult to deal with and to develop compensatory pathways, as the intensity and type of symptoms are unpredictable, even within a given task type or lesson. It is therefore very important that the child understands the nature of his/her problem, so that both success and failure can be better predicted. Their already persistent anxiety is exacerbated by the fact that they often anticipate failure, so that a new situation or task can exacerbate it to an extreme. Many children therefore prefer not to start a task that they consider more difficult. This avoidance behaviour is often misunderstood by those around them, often labelling it as laziness, while a child's hesitation to take on certain tasks is more likely to be due to anxiety and confusion than to indifference. Eventually, he becomes extremely vulnerable as a result of frustrations and anxiety. A teacher's understanding, empathetic and patient attitude, an educational environment, methods and content adapted to the child's abilities and needs can help to overcome all these difficulties.



3.WHAT SHOULD WE KNOW ABOUT CHILDREN HAVING AUTISTIC SPEKTRUM DISORDER (ASD)?

## **INTRODUCTION**

There are many stereotypes, misunderstandings and misinformation associated with autism spectrum disorder, which have been generated by the increased public interest in the past decades. First of all, it is important to clarify that not all strange, odd, even bizarre behaviour



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constitutes an autism spectrum disorder, and not all people with autism exhibit unusual behavioural traits.

Today, we understand autism as a spectrum disorder (in our study we also use the term spectrum approach to describe autism), which means that it is characterised by highly heterogeneous behavioural traits, with symptoms that are not only varied but also variable. The symptom pattern may vary depending on age, severity, intellectual ability, speech and language comprehension, environmental influences and other associated disorders.

However, the spectrum also means that the transitions between severe and milder behavioural patterns are not necessarily sharp. The spectrum has a myriad of manifestations, with high functioning, high ability and verbal individuals with mild symptoms at one end and non-speaking, intellectually impaired individuals with severe symptoms at the other.



## 3.1. BRIEF DESCRIPTION OF ASD

Autism, like the two other developmental disorders detailed above, is a qualitative difference in social behaviour, communication and flexible behavioural organisation as a result of a developmental disorder of the nervous system, which manifests itself in characteristic behavioural symptoms. Autism is significantly genetically determined, but gene-environment interactions may also play a role, the nature of which for the moment remains less understood. All of these effects result in a neurobiological developmental disorder of the central nervous system and the resulting complex syndrome. Students with autism spectrum disorder are characterised by a lack of reciprocal social behaviour, weakness in situations requiring





reciprocal communication, qualitative differences in flexible behaviour organisation and an uneven ability profile.

Autism spectrum disorder occurs at all intellectual levels; with average or above average intelligence as well as with intellectual disability.

A common associated difficulty is sensory processing disorder (hypersensitivity or stimulus seeking in auditory, visual, tactile, olfactory, gustatory modalities and body position). Autism may also be associated with attention deficit hyperactivity disorder (ADHD), anxiety, depression or any learning difficulty or disability.

Even in children with average or above-average intelligence, autism spectrum disorder significantly affects and permeates children's development, altering the process of cognition and the development of social behaviour, and therefore all affected children need targeted, autism-specific intervention and educational support.

## **3.2 EDUCATIONAL IMPLICATIONS OF ASD**

Education in schools is a multi-stakeholder communication process. Autism spectrum disorder fundamentally changes this process, since the diagnosis of pupils is based on a qualitative impairment in the development of social communication.

Among the typical behavioural and thinking characteristics, students with autism have difficulty in picking up subtle, rapid, subtle communication cues, processing verbal messages quickly and responding to them in a timely and appropriate manner. They also have difficulty understanding what their peers or the teacher is feeling, thinking, what their intentions are, or putting themselves in the perspective of others (a combination of skills that psychology calls theory of mind).

In addition, the learning situation at school is pervaded by the uneven, sometimes extreme, ability profile of the pupils concerned. In addition to marked underachievement, they may often excel in areas such as memory recall and individual interests.









## 3.2.1 WEAKNESSES IN LEARNING

The teaching-learning process at school is strongly influenced by the difficulties of the children concerned in the following behavioural areas:

- Planning, organisation, activity management, time management
- Ability to switch flexibly between goals and activities
- Adapting to changes in familiar routines
- Interacting and cooperating with peers: sometimes in unusual, awkward ways
- Difficulty of informal, everyday conversation as opposed to structured questionand-answer
- Literal interpretation of abstract, symbolic social content, difficulty in understanding e.g. joking, banter
- Communication is the same regardless of the situation, does not fit the other person or the situation
- Verbalisms using words that appear to be choice but without understanding, or repeating the words of the speaking partner
- Often has poor understanding of other people's metacommunication signals, and may have poor metacommunication of his/her own
- Naivety, as they may have difficulty recognising the intentions of others
- Serious difficulties in less structured and organised open situations with a wide range of possibilities, e.g. breaks, free time, lunch room, courtyard, outings, hols, etc.
- Pupil behaviour may be characterised by low frustration tolerance, emotional instability, increased vulnerability
- Poor imitation of spontaneous appropriate behaviours compared to peers





- Mobility, fine motor clumsiness, weakness
- Sensory sensitivity or stimulus seeking behaviour may affect participation in everyday life situations
- Narrow interests, within which he/she may be very well informed, but at the same time rigidly adhering to and initiating conversation on topics of interest.



## 3.2. STRENGHTS DURING LEARNING

In addition to weaknesses, a child with autism has many strengths that can enrich the life and community of the classroom. Rather, a wide range of potential strengths may be present in different combinations in different subgroups of children with autism.

Recognising and exploiting strengths is very important in motivating the learner, achieving peer recognition, self-confidence and a sense of achievement. Strengths can also be built upon for career guidance and productive use of leisure time.

However, strengths can be misleading, as they can lead to too high expectations from parents and teachers. It is important to be aware that autism is characterised by an extremely uneven ability profile, so that strengths are often isolated to one area and the pupil cannot be expected to do well in all areas.

In the case of autism spectrum disorder, it can be mentioned as a strength:

- detailed visual-based information processing, e.g. in the case of diagrams, graphs, maps
- adaptation and consistent adherence to learned routines and rules
- a good level of memory
- concentration, perseverance and precision, especially in subjects of the learner's interest





- good or even outstanding performance in certain disciplines (mathematics, geography, music, art, certain sports, IT)
- good musical ability and musical memory
- sensitivity to detail
- the ability to process large amounts of information simultaneously and to memorise patterns (e.g. in a sequence of numbers or musical notes)
- honesty
- reliability





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4. LEARNING MANAGEMENT SOLUTIONS - METHODOLOGY, LEARNING ENVIRONMENT, LEARNING MATERIALS ADAPTATION

In the process of teaching and learning of pupils with SEN, it is of particular importance to adapt the curriculum, to incorporate elements of learning methodology, to provide varied learning organisation methods, differentiated teaching organisation and project work.

Learning adapted to the individual needs, differences, different cognitive and learning styles and interests of learners can be achieved through differentiated learning organisation. For children with different developmental profiles, the teacher needs to consider how to:

- choose learning methods and materials;
- select and combine possible types of assessment;
- determine the extent of support and assistance.

From this point of view, frontal classroom work is less suitable to take into account individual differences, since it provides a uniform curriculum for all students using uniform methods, and there is no possibility for individualised learning-teaching. However, when discussing shared experiences, listening to a story, literature or science text, this traditional form is the most effective. Differentiated learning can be organised in several ways.

During **cooperative learning**, children work in small groups in cooperative learning situations based on collaboration and joint task completion.



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**Differentiated clustering work** involves groups of pupils working independently on identical tasks. In this form of work, the composition of a group of pupils, the cluster is homogeneous, the pupils working in each cluster are at similar levels, have similar knowledge and can therefore follow the teacher's work and each other's work well. This allows for in-depth, independent learning, as gifted learners, learners who are progressing at a good pace and learners who are progressing more slowly can work on other tasks.

**Individualised learning:** each learner completes tasks and activities adapted to him or her, at his or her own progress rate. During learning, they are not in contact with their peers and work alone. Individualised learning, complemented by group work, ensures that individual development is adapted to the needs of the individual and specific to the disorder.

There are different strategies to help learning. On the one hand, we can turn weaknesses into strengths by incorporating different compensatory strategies (see Table 2), and on the other hand, developing metacognitive awareness leads to the development of effective cognitive strategies (see Table 3).

WEAVNEGGEG	POSSIBLE COMPENSATION STRATEGIES,	
WEARNESSES	DEVELOPING STRENGTHS	
Difficult to switch from one task to	Tight timeline of tasks: setting a timetable and	
another	ensuring continuous feedback on the timetable	
Fluctuating, unpredictable	Strengthen memory strategies: continuous modelling	
performance	of the purpose of the activity, e.g. with visual stickers,	
	posters, flow charts	
Easily distracted attention	Adapting the environment (quiet, undisturbed) or	
	separating the task into steps by setting a time limit	
	for each step. Facilitate eye contact when giving	
	instructions	
Lack of confidence, frustration	Short tasks facilitate productivity, it is recommended	
	to provide continuous feedback on the progress of	
	the task and the quality of the work.	
Time management problems	Support for the use of stopwatches, setting time	
	limits while continuously monitoring the remaining	
	time	
Weak spatial orientation, difficulty	Encourage questioning in case of problmes, allow	
in finding your way around	time to record and possibly model distinctive	
	features.	





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Difficulty in highlighting a point,	Using highlighter, colourful, translucent
e.g. in a text	transparencies helps the student to focus on the
	important information, while the unimportant
	remains in the background, obscured.
Impulsive problem solving: fast	Clear, to the point guidance on the purpose of the
but with many errors	task: accuracy is more important than speed.
Difficult to cope with rapid	Provide a structured environment, minimising
changes (human, environmental)	changes and distractions
Difficulty working in large spaces	Adapting the environment: reducing noise sources,
with significant background noise	creating smaller spaces, nooks, earphones, possibly
	earplugs, white noise, soft music
Difficulty interpreting written	Presenting tasks either with pictograms, pictures,
instructions	modelling the action. Recording and playing back
	instructions from an audio recording.
Difficulty recalling simple	Possibility of using calculator, telephone, aids, 'cheat
mathematical facts e.g.	sheets'
multiplication tables	5110015
Difficulty understanding inter-	As much group work and role-playing as possible.
Difficulty understanding inter- group relationships, interactions	As much group work and role-playing as possible. Reinforce positive behaviour with immediate
Difficulty understanding inter- group relationships, interactions	As much group work and role-playing as possible. Reinforce positive behaviour with immediate feedback.
Difficulty understanding inter- group relationships, interactions Poor visual memory	As much group work and role-playing as possible. Reinforce positive behaviour with immediate feedback. Visual information is accompanied by verbal
Difficulty understanding inter- group relationships, interactions Poor visual memory	As much group work and role-playing as possible. Reinforce positive behaviour with immediate feedback. Visual information is accompanied by verbal information, audio recordings.
Difficulty understanding inter- group relationships, interactions Poor visual memory Poor verbal memory	As much group work and role-playing as possible. Reinforce positive behaviour with immediate feedback. Visual information is accompanied by verbal information, audio recordings. Descriptions and instructions supported by
Difficulty understanding inter- group relationships, interactions Poor visual memory Poor verbal memory	As much group work and role-playing as possible. Reinforce positive behaviour with immediate feedback. Visual information is accompanied by verbal information, audio recordings. Descriptions and instructions supported by drawings, pictograms. Preference for simple verbal
Difficulty understanding inter- group relationships, interactions Poor visual memory Poor verbal memory	As much group work and role-playing as possible. Reinforce positive behaviour with immediate feedback. Visual information is accompanied by verbal information, audio recordings. Descriptions and instructions supported by drawings, pictograms. Preference for simple verbal instructions. Possibility to make and play back an

Table 2 - Promoting compensation strategies

By developing effective cognitive strategies and metacognitive awareness, we can support our students by:

	Repetition	Beneficial for attentional focus and information encoding.
ategies	Detailed elaboration,	It helps learners to retain information in their long-term
	summary	memory by making connections between information,
e str		linking new knowledge to their prior knowledge, thus
nitiv		forming a knowledge network
Cog	Organisation	It helps in selecting the right information and finding the
		links between them





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	Analysis	It helps problem solving and supports critical thinking
Metacognitive startegies	Linking new information to existing knowledge	It helps the process of problem solving/task solving by providing awareness of appropriate problem/task solving strategies, helps the development of self-regulatory mechanisms such as planning the steps of task solving, monitoring the effectiveness of the action taken, testing, reviewing and evaluating problem solving strategies
	Conscious choice of thinking strategies	Choosing and testing the most effective strategy to solve the problem
	Planning, monitoring and evaluating mental processes	If the chosen thinking strategy does not work, choose a new strategy, test it

Table 3 - Facilitating the development of cognitive, metacognitive strategies

## 4.1. What strategies can teachers apply to help children with ADHD learn more effectively?

- regular breaks when they have the opportunity to move around and relax
- it is important to develop a regular daily schedule, setting up an appropriate and transparent framework
- giving them tasks in class that are relevant to their interests helps their learning
- it is helpful if they can break down more complex tasks into steps and keep track of how much they have done and how much they have left to do
- providing extra time reduces the stress of performance anxiety
- building on their strengths to exploit their creativity and new insights

# 4.2. What strategies can teachers apply in cooperative group work to help children with learning disabilities learn more effectively?

• Look at it! – before reading, focus on the topic e.g. brainstorming technique, anticipate learning objectives, tasks





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- OK and stop! learners select a difficult text together, during reading give feedback (OK) if they understand the words and phrases, and also if they do not understand (STOP) the word or phrase, or turn of phrase
- Get to the point! highlight the most important parts of the text
- Summarise! formulate questions and answers, or summarise what they have learned.

# 4.3. What strategies can teachers apply to help children with ASD learn more effectively?

- structured learning environment helps to create a sense of security, the teacher needs to be aware of the diversity of the spectrum and to design a structured and planned learning environment adapted to the specificities of the learner
- Visual content (pictures, videos, diagrams, graphs, charts) can be used to support understanding of the material, and teachers should consider which visual tools are most effective for a particular student
- there are currently many tools available to support the learning process of people with autism, it is recommended to integrate these online and offline applications into the teaching process
- people with autism spectrum disorder often prefer non-verbal communication instead of verbal communication, and it is recommended to offer and provide the latter option in order to develop their communication







## 5. E-LEARNING OPPORTUNITIES, DIGITAL ACCESSIBILITY

Although 21st century schools are increasingly relying on tools to support learning, they are still only partially exploiting the opportunities offered by technology. Digital tools and methods, thoughtfully chosen and deliberately integrated into the teaching-learning process, can facilitate learning, the recognition and understanding of relationships and the development of compensatory mechanisms for learners with different learning difficulties, while providing an experience and a sense of achievement.

Today, there is a wide range of digital tools available to support learning in the classroom and at home, to support active learning and the efficiency and effectiveness of knowledge building. The criteria for the choice of tools should be based on the needs and preferences of the child concerned and the teacher's possibilities. There is no recipe for every situation, but classroom or personalised solutions can bring spectacular results in the learning-teaching process. The aids used should be integrated into the lesson in a planned way, their use should be prepared and structured, and their usefulness should be monitored and evaluated.

Here are some suggestions on what to focus on espacially in digital, online education for learners with different learning difficulties.

# 5.1. Tips for developing an online learning platform for students with ADHD

• like traditional education, an ADHD learner should be provided with the most simplest environment possible. in consultation with parents as partners online education should be realised in a less external, distracting, stimulant-free environment. In consultation



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with other teachers, it is very important that students use the same platform for different lessons, preferably with the same layout (e.g. homework should be available in the same place), to ensure ease of access

- it is recommended to define the structure of the curriculum in advance, to make it transparent what is the topic, what is the aim, what is covered, i.e. to develop a framework these should be presented in text or picture form, according to the age of the learners. Tasks already completed can be ticked off.
- it is important to make sure that the student understands the task. To do this, it is recommended that short, concise instructions are given and that longer tasks are broken down into shorter units. In the digital space, it is possible to check understanding of the tasks, e.g. by using multiple-choice questions. This not only allows the understanding of the solution of the task, but such gamified control tasks can also increase the motivation of the learner.

# 5.2. Tips for developing an online learning platform for students with learning disabilities

- simple and clear layout is important, information on the online platform should be presented in in easy and understandable way
- the material to be learnt and assimilated can be supported by the inclusion of visual images, diagrams, videos and charts
- interactive programmes, simulations and modern IT solutions based on pedagogical principles (gamified exercises, online/offline dictionaries for foreign language teaching, translation programmes) can be used
- text reading and subtitling software may be used
- the use of a variety of task types is recommended, as this allows students to learn and understand the material more deeply
- the use of the Dyslexia Character Font (open-dyslexic-font) is recommended, which is a more pronounced and characterful font, adapted to the perceptual characteristics of dyslexic individuals. The combination of letter spacing, relationship and shape results in more legible writing. The text as a whole is more airy, with both the letter





and the global word form being perceived in good quality. This significantly reduces reading fatigue for people with dyslexia.

A dyslexia-friendly text is characterised by:

- $\checkmark$  consists of short lines,
- ✓ uses Arial size 12 or Comic Sans,
- $\checkmark$  written on cream or pale yellow paper,
- ✓ uses legible but not sharply contrasting fonts, left-closed text is better than line-closed text because it creates fewer visual "corridors" (i.e., an apparent line of spaces running vertically across the page) that can easily mislead and impede reading for dyslexics.

# 5.3. Tips for developing an online learning platform for students with ASD

- by analogy with traditional education, it is worth providing a more streamlined environment for students with autism spectrum disorders. In consultation with other teachers, it is very important that students use the same platform for different lessons and, where possible, the same layout to ensure ease of access (e.g. homework should be available in the same place)
- it is important to have a simple and clear, consistent layout, with information on the online platform arranged in an understandable way
- visual display of the day's tasks, agenda
- the learning material is illustrated with visual elements pictures, diagrams, videos, diagrams aiming the understanding
- it is important to use language that is easy to understand and clear: use clear, simple, unambiguous sentences





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