



THE DIFFERENCE BETWEEN DYSLEXIA AND DYSCALCULIA

What is it?

"Specific Learning Disorder" - both are lifelong conditions.

DYSLEXIA

Children with dyslexia have trouble reading accurately and fluently. They may also have trouble with reading comprehension, spelling and written expression.

DYSCALCULIA

Children with dyscalculia may have difficulty understanding number-related concepts, have poor number sense and find it difficult to apply their knowledge to solve math problems.

Signs you may notice

They may perform above average in certain tasks, but poorly in others.

Preschool: delayed speech development, problems expressing themselves using speech, little understanding of rhyming words, difficulty with identifying (on oral level) the initial sounds within words, poor "sounding out" of basic words (e.g. c-a-t → cat). Difficulty remembering the letter-sounds, numbers and days of the week taught in class.

School children: difficulty interpreting written material. Poor sequence of sounds (left for felt) or reverse letters or numbers (b/d), may perceive letters as "moving" across the page, lose their place when reading across lines. Sight words are often confused when reading (e.g. there/where; that/what; a/the; of/for). May have problems with auditory / speech skills. This can cause problems learning names and sounds of letters, linking letter shapes to sounds, trouble breaking words into sounds. Reading slowly and making errors, difficulty writing down answers, following directions, slow and poor handwriting, trouble with word problems in math.

Preschool: finds it hard to sort items by size, shape or colour, trouble learning to count, difficulty connecting numbers to objects e.g. connecting the number 2 to the possibility of having 2 toys, struggles to recognise patterns. Repeats a number or leaves out a number when counting.

School children: difficulty learning and recalling number facts such as $2+4=6$, poor understanding of signs like +, -, difficulties solving math problems, poor processing of graphs and charts, lacking confidence in areas that require math e.g. measuring ingredients in a recipe. They are not able to recognize words like "more than" or "less than". When adding or subtracting they start on the left instead of the right and they struggle to carry the number over when doing these calculations.

Impact in the classroom and general life

Impacts negatively on a child's self-esteem and can make them feel inferior to their friends. They may feel embarrassed to read aloud. They sometimes struggle to find the right words to express themselves. They may have a tougher time understanding jokes and may need extra time to answer questions in the classroom. Auditory processing of instructions or lengthy questions may be poor. Slow and inaccurate copying of information from the board. They become extremely fatigued, as reading and writing remains effortful rather than becoming an automatic skill. This can lead to a loss in motivation and interest, and the child might seem distracted or "inattentive" as a result. Anxiety is also often observed.

Negatively impacts on their confidence in class. Not sure how to manage their time during a test. They often take longer than their peers to work through math tasks, especially when mathematical procedures involve multiple steps and application of basic number facts. This also leads to fatigue and anxiety. The child may become demotivated or may seem distracted as a result of not "keeping up" with their peers and with the curriculum.

The importance of early intervention

If your child struggles with literacy or math, early diagnosis is better. Firstly, rule out any condition that may be affecting your child's learning e.g. hearing or visual problems. If there are still concerns your child may be referred to an Educational Psychologist or other specialist. There is no medication that treats dyslexia or dyscalculia however, treating any co-occurring conditions (e.g. ADHD or anxiety) may be helpful.

Ways to help children

Special concessions or accommodations, e.g. use of a reader and/or scribe in a separate venue, additional time, spelling concessions, exemption from mathematics, etc. (these need to be applied for, following formal assessment by a psychologist).

Speech therapy: assist in recognizing and processing sounds, letters, and words as well as auditory processing skills.

Occupational therapy: assist with handwriting, letter formation, spacing and visual processing.

Remedial therapy: focuses on application of underlying skills addressed in speech- and occupational therapy. Teaches reading in a systematic way, using reading programs.

Technology: using a computer or tablet with spell-check in class may be more useful than an exercise book. Apps and interactive software e.g. TTS (text - to - speech) allows the device to "read out" a written document (or the child's own typed work). STS (speech-to-text) allows one to speak (dictate) into the device, and the device "types" what is said.

Remedial interventions that break math down into manageable chunks, as well as other ways that help make math fun, like number and board games. Real-life, experiential learning is extremely important. Children learn math concepts by going through a specific sequence of processes, therefore all new math skills should be taught experientially first, using real-life objects, before proceeding to picture-level and finally symbol-level.

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