The Neurodivergent Classroom

Dyscalculia at a Glance

Dyscalculia means lasting difficulties with numbers, quantities and calculation. In class, students may memorize procedures without really understanding what's behind them.



What you may notice in class

- Counts much longer than expected.
- Misses answers that can't be right.
- Struggles to turn word problems into math.
- Uses the same procedure even when the problem changes.
- Tenses up before math even starts.
- Gets lost with amounts, number lines or proportions.
- Guesses, or counts on fingers for a long time.
- With younger kids, shaky number sense and place value make new strategies hard. (elementary school)
- Older students struggle to apply skills to algebra, fractions and word problems. (middle and high school)

Strengths

- Shows understanding with manipulatives or drawings.
- Their estimates show real mathematical thinking.
- Explains out loud what paper doesn't show.
- May be confident in some areas of math.
- Hard work and support can carry them for a long time.
- Visual approaches open the door to math.

What helps

- Make quantities visible with manipulatives or pictures.
- Use the number line regularly.
- Have students estimate before they calculate.
- Practice one strategy until it sticks instead of skimming many.
- Drop time pressure and speed contests.
- Practice math words like sum, difference and fraction.
- Let students explain their strategy out loud.
- Use structured support one-on-one or in small groups.
- Use sketches or bar models for word problems.
- Build understanding before teaching the procedure.
- With younger kids, use manipulatives, pictures and the number line. (elementary school)
- With older students, use formula sheets, sketches and structured steps. (middle and high school)

What tends not to help

- Timed mental math in front of the class.
- Piling on more of the same worksheets.
- Letting a calculator replace understanding.
- Practicing general skills instead of math.

Words that carry

"Let's see the amount before we do the math."

"Walk me through how you did it. You can use blocks or a sketch."

"You don't have to be fast to be a math thinker."

"First, let's lay out the numbers and amounts so we can see them." (elementary school)

"Which amount are you trying to find first?" (middle and high school)

Where to find support

Understood.org: Dyscalculia
understood.org/en/articles/classroom-accommodations-for-dyscalculia
Classroom accommodations for dyscalculia, written for teachers.

British Dyslexia Association: Dyscalculia bdadyslexia.org.uk/dyscalculia
UK charity with information on dyscalculia and support in school.

Local support
Many countries have learning disability or dyslexia associations that also cover math. Ask your school psychologist or special education team.

More in the Teacher Portal: neurodivergentclassroom.com/teacher-portal/dyscalculia/

Sources: Education Endowment Foundation: Improving Mathematics in Key Stages 2 and 3 · IES What Works Clearinghouse: Assisting Students Struggling with Mathematics · AWMF S3 guideline on the diagnosis and treatment of dyscalculia, register 028-046 (in German) · Haberstroh and Schulte-Körne: The diagnosis and treatment of dyscalculia (in German)