

Overview - dyscalculia

Dyscalculia is a condition that affects the ability to acquire arithmetical skills. Dyscalculic learners may have difficulty understanding simple number concepts, lack an intuitive grasp of numbers, and have problems learning number facts or procedures. Even if they produce a correct answer or use a correct method, they may do so mechanically and without confidence.

Students with dyscalculia may find it hard to:

- Understand the concept of positive whole numbers as indicators of order and size, e.g., the fact that 12 is smaller than 22.
- Judge/keep track of time and plan time schedules.
- Estimate 'sensible' answers.
- Remember simple arithmetic facts (e.g., $4 \times 6 = 24$).
- Accurately copy and distinguish between similar-looking numbers and symbols (e.g., + and x, 6 and 9).
- Carry out everyday financial tasks, such as giving change and handling a bank account.
- Follow a series of instructions or steps in the correct order, e.g., work out a percentage or calculate a long division sum.
- Make sense of wordy maths questions.
- Memorise and recall specialised maths vocabulary.
- Learn theorems and formulae.

(The first two points are the most significant indicators. Difficulty with the others may also be due to dyslexia and dyspraxia. See related guides.)



Top tips for teaching students with:

- Where possible, use visuals (such as graphs, tables and diagrams), practical activities and real-life examples to help link abstract mathematical ideas to concrete facts.
- Go at the students' pace and provide plenty of practice, recapping and revision of new skills and concepts.
- Help students break down complex problems into small, manageable steps.
- Reduce the load on memory by providing memory aids (such as diagrams, flow charts and lists).
- Focus on developing understanding by setting open questions and problems to solve.
- Help students see mistakes as positive opportunities for learning.
- Use colour to highlight various aspects of a question, such as terms in a quadratic equation or cells in a spread sheet.

True dyscalculia is relatively rare and will generally require specialist tuition.

Useful links

- http://www.lboro.ac.uk/media/www.lboro.ac.uk/content/mathematics_educationcentre/downloads/DDIG%20Leaflet.pdf
- https://www.nottingham.ac.uk/studentservices/documents/academic_supportleaflet-dyscalculialeaflet.pdf
- <http://www.brainhe.com/staff/types/dyscalculiatext.html>

