Learning about **neurodiversity** in school

Neurodiversity is more prevalent in classrooms than many of us realise. Alyssa Alcorn outlines the importance of learning about neurodiversity at school, and the free support that teachers and pupils can access.

BIO

ALYSSA ALCORN

Alyssa is the lead researcher on the Learning About Neurodiversity at School (LEANS) project. She has a multidisciplinary background in psychology, human-computer interaction, education, and design.

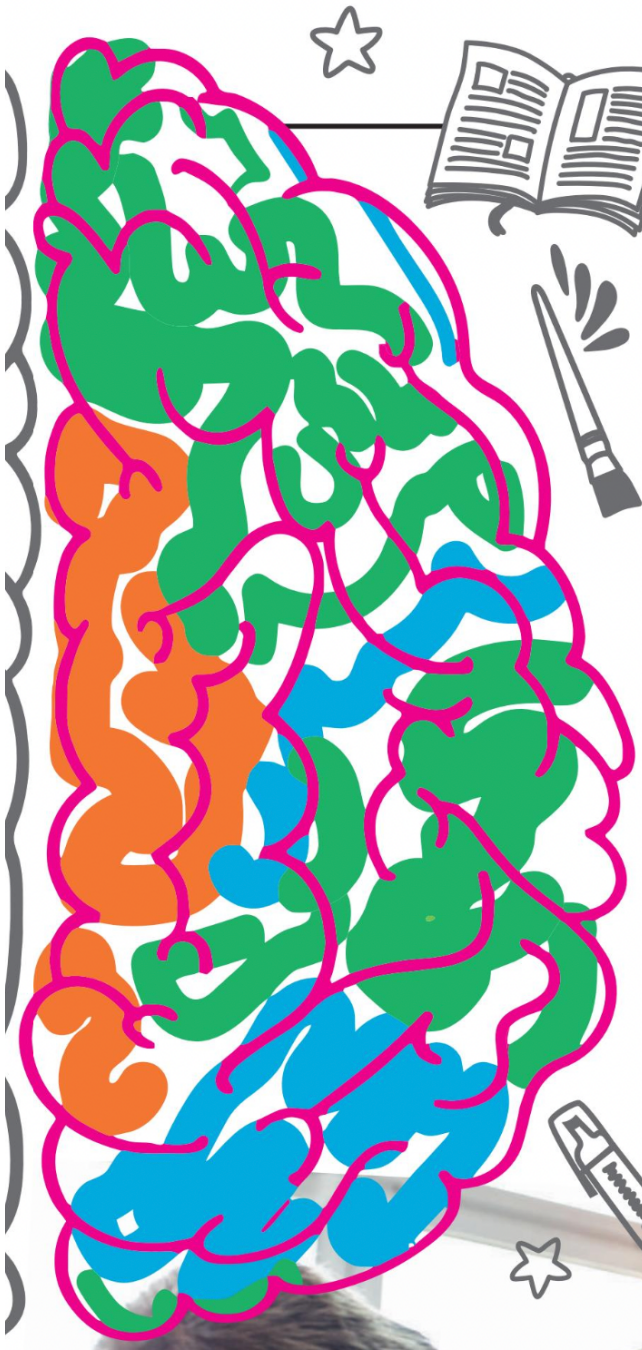
Here's a question that may not appear in your weekly pub quiz: about one out of every eight mainstream primary pupils is likely to be _____? Your hint is 'brains'. Still guessing? Based on government data from around the UK, an estimated 10-14 per cent are neurodivergent. As this data is only for pupils already receiving support, the real prevalence would be even higher.

Neurodiversity means differences in how people's brains process information. 'Information processing' covers a huge range of things our brains do, including learning information, controlling physical movement, paying attention, and understanding language. Like all types of diversity, neurodiversity is about variation present within a group. People comprising the majority of the group, with respect to how their processing works, are neurotypical. On the other hand, neurodivergent group members' processing differs from the majority (and often each other), sometimes in ways that substantially affect daily life. Autistic, dyslexic and dyspraxic people, or those with ADHD or Tourette's syndrome, could all be described as neurodivergent, though individuals may not identify in that way. Whatever terms you use, these differences aren't rare: they're everywhere!

The Learning About Neurodiversity at School (LEANS) resource pack is a new, free tool for mainstream primary schools to introduce neurodiversity concepts, for classes with pupils aged between 8 and 11. LEANS was developed between 2020 and 2022 by a neurodiverse team of researchers and experienced educators from the UK nations and Ireland. It is among the first resources for teaching this topic in mainstream primaries. While the topic is novel, it has close connections to existing curriculum priorities and topics including wellbeing, inclusion, human rights, and citizenship.

Many neurodivergent pupils face cognitive, sensory, and social challenges in the school environment. Some challenges

> "Many neurodivergent pupils face cognitive, sensory, and social challenges in the school environment.



may be compounded – or caused – by a lack of understanding and acceptance from adults and peers. By explicitly teaching about neurodiversity and neurodivergence, LEANS seeks to increase understanding of how differences in cognition, interaction, and sensory processing impact school experiences, and the legitimacy of differing needs and strategies.

LEANS deliberately upskills teachers and pupils together, not teachers alone. While neurodiversity training for teachers is a positive step, it's incomplete. What all pupils know and do has a direct, ongoing impact on their classmates through the thousands of tiny interactions making up the school day. For example, what do they do when faced with a mistake, an offer of help, or a classmate doing something in an unexpected way? What happens if one person receives support that isn't available to everyone?

Whole-class neurodiversity teaching sends the message that it is everyone's business to understand these differences, and to make their school a respectful and accepting place. Delivering neurodiversity teaching only to children with diagnoses or known support needs would be like teaching about cultural diversity only to children from minority groups in your community. Neurodiversity lessons could affect the greatest changes in perspective for the majority of children who are neurotypical, or do not currently think of themselves as different or needing support.

LEANS aims to facilitate change by addressing what people know about neurodiversity, but also what they think and do at school. Facts alone aren't enough to convince people that neurodiversity exists in their own classroom and can massively affect people's lives in ways that aren't always visible from the outside.

It is divided into seven units on the following topics: introducing neurodiversity, classroom experiences, communication, needs and wants, fairness, friendship, and reflecting on our actions. We recommend delivering the curriculum in small instalments, spread over one or more terms. Note that none of those topics focus on brains! Instead, they focus on how neurodiversity-related differences play out in the classroom.

When you're nine years old, neurons may be interesting, but concerns over fairness, being listened to, asking for help and peer relationships are undeniably important. Neurodiversity can affect them all. Knowing about neurodiversity can help children to understand why things are the way they are in school, and that there are real, non-arbitrary reasons for the differences in our thoughts, emotions, and learning.

The LEANS resource pack is freely available for download now, worldwide. **https://bit.ly/3HanzQN**

Each unit is structured around high-level key points (neurodiversity learning objectives) and includes multiple resource items. Videos directly explain new concepts and vocabulary. Hands-on activities make key points and terminology 'real' – we saw that in our class, I did that myself. They use varied formats from games to problem-solving tasks to theatre, but all give pupils direct experience with abstract ideas, and a shared frame of reference to discuss them.

Activities interweave with stories about a fictional, neurodiverse class. The main characters represent a range of strengths, challenges, and diagnostic statuses. Stories complement the generalised key points by illustrating individual perspectives and school experiences, without singling out any real pupils in class. The stories push pupils to consider what neurodiversity means in people's lives, and how varied those meanings may be. Across units, the characters learn to better respect information processing differences, but that doesn't mean anyone's struggles or support needs magically go away.

Our evaluation study in 2021 suggests that this combination of content was successful in targeting what pupils know, think, and intend to do about neurodiversity-related differences at school. One participating teacher wrote: "I think that studying LEANS genuinely made an impact on the class … I think it helped children to have a better understanding of the way others are/feel, and also why learning can be different and is delivered differently to them."

Learning about neurodiversity can affect how we understand and accept others but can also change how we understand and accept ourselves. Asked what they learned from LEANS, one child explained: "Everyone is different [and] you don't have to be the same as everyone else … you can just be you." Especially for neurodivergent children, it can really matter to hear that being different is OK, even when it might be hard.

> "When you're nine years old, neurons may be interesting, but concerns over fairness, being listened to, asking for help and peer relationships are undeniably important.

EVALUATING LEANS IN SCHOOLS

After developing the resource, we needed to assess whether it was feasible in real classrooms. Between August and December 2021, seven classrooms across four Scottish primaries (139 children) participated in LEANS, with 62 enrolled in the evaluation study via parental opt-in. This meant sharing their child's quiz scores with researchers and providing background information.

Study participants had an average age of 9.84 years, and 17.74 per cent had additional support for learning needs (as reported by parents), including formal diagnoses and undiagnosed but suspected challenges.

Participating teachers administered bespoke quizzes to measure neurodiversity knowledge, and children's attitudes and intended actions in the school context. For example, one multiple-choice intended actions question asked: "The person sitting next to you is having a really hard time doing a lesson. They look like they need some help. What do you think is the best thing to do?"

Post-test quiz scores illustrated that pupils could demonstrate knowledge of the neurodiversity concepts in LEANS and expressed more inclusive and accepting attitudes and intended actions following their participation. Additional feedback from teacher diaries and child interviews supported this picture, providing concrete examples of change (and many points for improvement). LEANS appears to be a successful tool for introducing neurodiversity concepts, and offering a basis for ongoing conversation, reflection, and change.