Policy brief

January 2023

Towards inclusive schools: enabling all students to flourish

Key messages

Inclusion is mandated practice, but its application in schools is patchy and **children with SEND are disproportionately likely to be excluded and bullied**.

Achieving inclusion in schools requires **a shift in attitudes and teaching practices** away from individual efforts to correct "deficits" or provide accommodations for specific students, towards **universal approaches** that facilitate access to learning for all students .

The process for developing inclusive practices requires schools to **co-produce inclusive policies with parents, staff and students**, including those with lived experience of neurodivergence.

Growing evidence shows **a neurodiversity approach can support all learners** to feel they belong to their school community in a way that meets their needs and enables them to flourish.

All children have a right to an inclusive education: to feel that they belong to their school community in a way that meets their needs and enables them to flourish. Yet too many children—especially those who don't fit the typical learner profile—are excluded from classrooms, treated as failures or ignored. Students with special educational needs and disabilities (SEND) are six times more likely to be excluded than their peers and more than twice as likely to be bullied. For any child, negative school experiences can undermine well-being, achievement and life prospects. Schools can and should do more to be inclusive and ensure all learners get the education they need and deserve. In December 2022, as part of the Global Scientific Conference on Human Flourishing, the University of Cambridge convened a multistakeholder meeting to consider where the system for inclusion falls short and what school leaders can do to reshape learning environments for all students to thrive.

System shortcomings

Inclusion for children with SEND is mandated practice in the United Kingdom. The system for achieving it is partially informed by diagnostic labelling and aimed at securing additional support. Some children will have needs that cannot be accommodated in a mainstream setting and will require specialist provision. For those who don't, the Special Educational Needs and Disability Code of Practice dictates that every school must have a system to identify children in need of support and to assess, monitor and secure appropriate support for any SEND they may have.[1] Schools receive a delegated budget for this.[2]

But the system suffers from several major failings.

1. Unsustainable funding model. Fuelled by a growing awareness of learning differences and a focus on early identification, the number of students with SEND is huge and rising. In 2022, there were an estimated 1.4 million state students with SEND; 1 in 25 schoolchildren had a Education, Health, and Care Plan.[3]

Local authorities across the country had huge shortfalls in SEND funding as they struggled to keep up with demand. By 2021, the national deficit in dedicated schools' budgets was more than £1 billion.[4] With these numbers, even significant increases

in SEND funding are unlikely to reach all those in need.

2. Impractical approach. SEND covers a huge range of conditions, from specific and modest difficulties to substantial cognitive barriers to learning. Individual SEND labels may be useful for designing interventions for individuals or small groups, but these can be difficult to manage and sustain in the classroom or across the whole school.

In 2022, 1.4 million state students had SEND

Deciding which intervention to use when and for whom is made more difficult because people rarely meet the criteria for just one condition.[5–7] Co-occurring needs are usually addressed by adding one intervention on top of another. But different needs combine in complex ways and with different impacts across individuals, so this additive approach often doesn't work.

3. Misguided focus. The diagnostic labels that often gate access to support give only a limited and static snapshot of a student's needs.[8] They are ill-suited to capturing the developmental context in which difficulties occur and so not fit for purpose.[9] As a result, these rigid categories do not adequately accommodate the messy real-world needs of most children, for example those who do not neatly align with the diagnostic standard, or those whose difficulties fall just below the threshold for formal diagnosis but which are still impactful. Existing labels also miss those students who conceal their difficulties with coping strategies.[10–12]

Configuring support around diagnostic labels can also skew perceptions of ability at the expense of positive characteristics like creativity, innovative thinking, or problem solving.[13] They perpetuate a narrative that focuses on "correcting deficits" and "normalising" certain children, rather than considering how the education system itself might disadvantage students with different strength profiles.

4. The equity gap. In theory, any child with suspected learning differences is entitled to an assessment of needs. But in practice such assessments—and the diagnoses and support that follow—are unequally accessed. Higher-income parents who can afford assessments for their children through private practitioners have an advantage over their less-well-off peers, who face long waiting lists for a needs assessment in the public health service. Across the country there are disturbing inequalities in identifying and supporting students with SEND: almost twice as many boys as girls are identified as having SEND, and there are large regional and ethnicity-based disparities.[14]

Social inequalities in access to support combine with learning barriers to compound the exclusion problem, with boys and ethnic minorities most likely to be excluded.

5. Stigma. Because children with SEND labels are more likely to be bullied than their peers, they may choose not to access their entitled adjustments. For teachers, the focus on formal SEND diagnoses reinforces the idea that staff need specific neuropsychological knowledge to support their students, leaving teachers feeling unskilled and apprehensive. They may be inclined to distance themselves from their pupils with SEND and look for "expert" support outside school rather than draw on their own expertise to help meet students' needs.[13, 15–16]

All these failings are widely acknowledged.[2] The government's long-awaited 2022 SEND review confirmed that too often decisions are made based on where a learner lives or goes to school rather than on their needs. It found that many learners face significant delays in accessing support and too often do not end up with the right support in the most appropriate setting. The government recognises the need to change the system and has set out proposals for reform. These focus on improving early identification of needs and ensuring prompt access to targeted support (without necessarily requiring a label).

Broader reforms of the education system are also planned.[17] These reforms remain centred around educational attainment, measured as the

national GCSE average in English and Maths, and more socialisation, measured through behaviour and attendance.

Embracing neurodiversity

The purpose of inclusive education should not be to provide the least restrictive environment for children who experience SEND; it should be to provide the most enabling environment for everyone to flourish. Neither attainment nor socialisation are inclusion goals.

Instead of thinking of SEND as problems to be solved, they should be seen as part of naturally occurring neurodiversity. Individuals may be neurodivergent, meaning that they have a way of learning and processing information that significantly diverges from that of most of society in one way or another.[18] In this respect, people with autism, dyslexia, dyspraxia, ADHD, developmental language disorder, or Tourette syndrome may all be described as neurodivergent (though as individuals they may not choose to self-describe in that way).

Neurodiversity, like any diversity, is an inevitable part of our collective existence; yet much of society is tailored to neurotypical individuals. Given that neurotypical people by definition represent the majority, this is no surprise: it is reasonable to assume that certain features of public life, employment and education would develop in a way that suits the needs of the majority. Unfortunately, this often comes at the expense of those who fall outside this group, but who nonetheless contribute to society in an overwhelmingly positive way, despite the unfair challenges set against them.[19] We argue that there is a better way to optimise for access and equality in a way that includes neurodivergent individuals, while simultaneously improving conditions for neurotypical individuals. A neurodiversity-oriented strategy is one that accommodates both majority and minority ways of being.

Importantly, no one way of being or learning is better than another. All learners have individual strengths and talents that can be leveraged to increase confidence, absorb new information, and develop new skills. Numeracy and literacy skills, while important, are not the only ways of marking success and highlighting room for improvement. Making the most of strengths and characteristics associated with neurodivergence—such as visual thinking, the ability to spot patterns and themes, and creativity—can help individuals achieve their potential.

To truly enable all learners to flourish, the UK's educational system needs to move from inclusion on demand to inclusion by design.[20]

This requires a shift in attitudes, beliefs, and teaching practices away from individual approaches that try to correct "deficits" in specific students towards universal approaches that facilitate access to learning for all students. It also requires the adoption of an equity-based model of fairness in which not everyone gets exactly the same provision, but everyone gets what they need to thrive.

Universal behavioural standards and attendance targets, for example, only target superficial symptoms of many students' struggles and serve as unfair incentives. The human brain is a complex self-organising system, unique to each person.[21]

This uniqueness means that not all children are able to conform to rigid behavioural requirements, such as sitting still and being quiet for several hours of the day. Because attendance can be affected by many factors—such as illness, family difficulties, and socioeconomic hardship—getting to school may not always be straightforward. Rewarding perfect attendance and conformity to behavioural standards often rewards children based on things like neurotypicality, an avoidance of illness or bereavement, and financial privilege—all of which are outside a child's control.

Inclusion by design: reshaping learning environments

Within schools, senior leadership teams (SLTs) have the power to implement inclusion by design and reshape learning environments to be more inclusive for all students, even if not explicitly required by national guidelines. SLTs set the school culture, develop school policies, and enforce school practices.

It is vital that SLTs work with parents, students, and staff to co-produce their inclusion policy and practice. Parents are often very knowledgeable about their children's unique struggles, as well as the impact that school policies and procedures have on home life. Teachers may similarly have insights for inclusion in the classroom. All students, especially those with lived experience of neurodivergence, mental health conditions or social disadvantage, will have their own ideas about what inclusion means to them and what they need to achieve it.

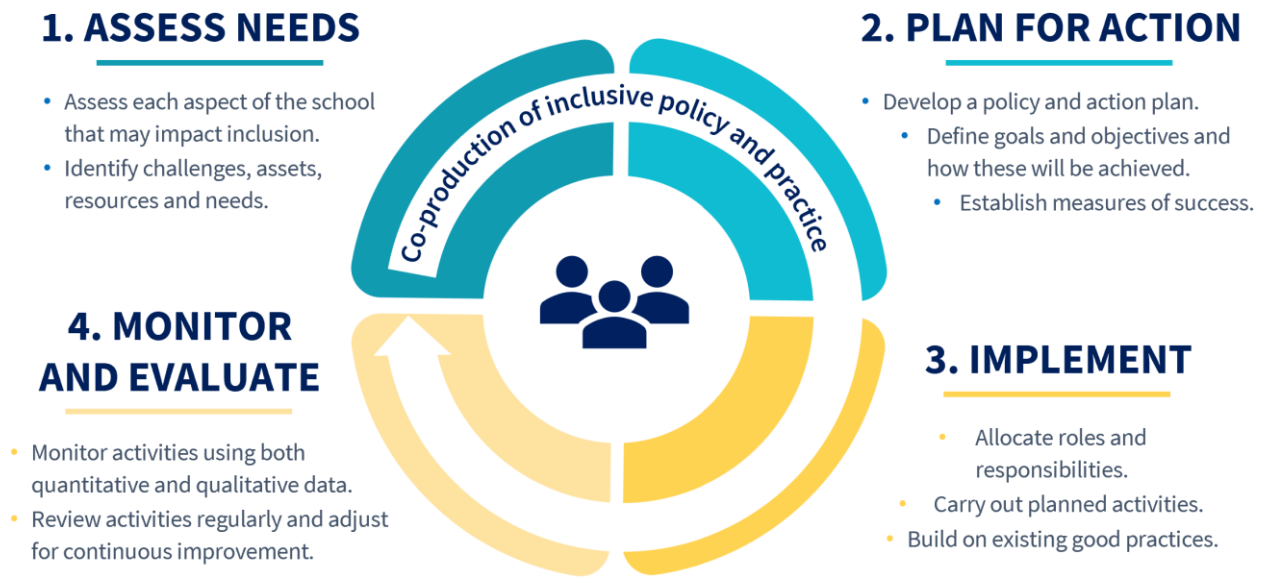
In practice, co-producing inclusive policy and practice in schools happens in four stages (see Figure).

Step 1. Situation analysis. This step is about assessing each aspect of the school system that may impact inclusion to identify the school's own challenges, assets, resources and stakeholder needs. Things to consider include:

- physical environments, not only classrooms but all school spaces (hallways, lunch and play areas, spaces for physical education, toilets, etc);
- interpersonal environments, including all staff at school—teachers, teaching assistants, the SLT, mealtime assistants, playground supervisors and administrative staff—as well as parents; and
- expectations of the student, including around communication (verbal and non-verbal behaviour), attendance and achievement.

Step 2. Plan for action. This step uses the results of the situation analysis to establish a school policy and action plan for inclusion. These documents set out the school's aims and objectives for inclusion and describe how those will be achieved, including establishing measures of success.

Figure. Four steps to co-producing inclusive policy and practice in schools.



Indicators of inclusion should extend beyond simple headcounts, to include other dimensions of inclusion, such as being at school or in class, having choice and agency in the classroom, not being excluded or victimised, feeling happy and healthy, and feeling listened to.[22]

Capturing these different aspects of inclusion requires schools to track multiple indicators, for example: attendance (acknowledging that attendance targets do not reliably measure students' work ethic but might capture other factors related to wellbeing); bullying; exclusion, suspension and isolation (including formal and informal instances); child-reported happiness at school; and staff wellbeing.

Step 3. Implement actions. This step is about allocating roles and responsibilities (not just to teachers) to implement the activities listed in the action plan and test out specific changes.

There are many activities that schools can choose from to improve inclusion, depending on their needs and priorities (see Table). No school will be starting from scratch: every school will have good strategies that can be built on over time in a way that is feasible and sustainable.

Training to raise awareness of neurodiversity and acceptance of neurodivergence will likely be important for all schools. Better informed, more accepting school communities (staff, students and parents) can help make school experiences more positive for all students.

Table. Example actions to support inclusion.

Inclusion objective	Example actions

Normalise differences in the classroom	• Implement the Universal Design by Learning (UDL) framework,[20] which focuses on multiple means of representation, action and expression, and engagement, for example by:
	  ○ presenting information and content in different ways;
	  ○ offering different options for students to show what they know; and
	  ○ providing different modes of classroom engagement that align with students' interests and challenge them appropriately.

Equip the workforce for inclusive practices	• Raise awareness among all staff on mental health, neurodiversity, and inclusive practices—through posters, seminars, workshops, etc. • Ensure comprehensive and consistent continuing professional development (CPD) on neurodiversity and inclusive practices. • Identify external partners, such as academics or local experts, to help with CPD.
Promote acceptance and empathy of all children	• Teach students about neurodiversity both explicitly and by weaving it into the curriculum (for example, by highlighting the contributions of neurodivergent individuals to the sciences, arts, and other areas of human knowledge). • Host assemblies and whole-school activities to celebrate individual differences and talk about how to be understanding of diverse needs. • Set clear school rules about acknowledging and valuing individual differences. • Intervene in instances of bullying or peer exclusion in a way that teaches collaboration, understanding and inclusion.
Eliminate unfair incentives	• Offer more flexible arrival and departure times for students who may need them. • Offer online resources for learning that students can access regardless of whether they are physically present in the classroom. • Reduce exclusion, suspension and isolation by using alternative strategies to support students. • Remove rewards and punishments relating to school attendance.

All staff in the school—including playground monitors, mealtime and administrative staff—have a role in shaping children's experiences at school and should be trained in neurodiversity and related issues, for example unconventional ways of communication. Many teachers already spend their free time learning about neurodiversity and trying to find ways and resources to support their students. At the same time, different teachers may access different continuing professional development (CPD courses in neurodiversity and SEND. This can all lead to different teachers applying different practices, which is confusing for children. Schools need a comprehensive, consistent approach to CPD to give teachers the knowledge they need to support their students in a coherent and reliable way.

For students, learning about neurodiversity—either through a specific curriculum delivered in the classroom or through whole-school activities that celebrate differences—is also important to help shift attitudes and actions towards inclusive practices (see Box: Learning About Neurodiversity in Schools (LEANS)).

Learning About Neurodiversity in Schools (LEANS)

LEANS is a free curriculum to introduce pupils aged 8 to 11 years to the idea of neurodiversity and help them explore how it impacts school experiences.[23] Developed by a neurodiverse team of researchers and educators, LEANS includes a mix of hands-on activities, storytelling, and factual resource items that are delivered by teachers in the classroom over 15–19 hours.

A 2021 evaluation of LEANS in Scottish primary schools found that the curriculum enabled children to successfully demonstrate knowledge about neurodiversity and its importance.[24] LEANS also helped children grasp key messages about how to best accept and accommodate neurodiversity among their peers. Changes in children's opinions about behavioural and cognitive differences were apparent after completing LEANS—interviews showed that they became more understanding and less critical of those who are 'different.'

Step 4. Monitor and evaluate. This step is about monitoring all the activities implemented (individually and as a whole), regularly evaluating them and adjusting them for continuous improvement. It is about establishing the means for measuring each indicator for inclusion and gathering all the relevant data.

Importantly, data for measuring inclusion should be both qualitative—collected by talking to children, staff and families—and quantitative, collected through school records, surveys and questionnaires.

Quantitative data should, as far as possible, be comparable across schools. Many schools already try to measure various student outcomes (e.g. wellbeing) but without clear standards and definitions, it is difficult to compare their performance with other schools or a national baseline. Rather than creating their own measures, schools should strive to use and share assessment resources that are openly accessible and evidence based. offer a fast, flexible and low-cost solution to assessment.[25] Crucially, they can easily be rolled out across an entire school. Digital surveys can also be created by SLTs and wellbeing teams to assess measures specifically relating to neurodiversity and inclusion.

Flourishing at school: benefits of the neurodiversity approach

The neurodiversity approach to inclusion is relatively new and not widely embedded in research or practice. Yet there is growing evidence that it can support all learners to feel they belong to their school community in a way that meets their needs and enables them to flourish.

Universal value. Neurodiversity-oriented educational systems don't simply cater to a minority of students; they consider all students' needs and create open and accessible systems for everyone, neurotypical or neurodivergent, diagnosed or undiagnosed. These systems include educational frameworks like the Universal Design for Learning (UDL) framework (see Box: Promoting UDL in New Zealand),

Promoting UDL in New Zealand

In recent years, New Zealand's Ministry of Education has introduced new policies and guidance to shape more inclusive primary and secondary schools. Some of these changes, such as the inclusion of digital technologies in teaching and learning and the move away from single classrooms to flexible learning environments, have helped introduce educators to UDL. This has promoted curriculum accessibility and helped foster environments that minimise barriers to learning.

The emphasis on inclusive education is paying off: compared with other OECD countries, New Zealand have higher than average early childhood enrolment and secondary school completion. The country's success in implementing UDL, while maintaining a commitment to high educational achievement, shows that inclusion policies can help all students do their best at school, contribute to their school environment and feel included.

which has been shown to increase student participation, confidence and enjoyment of learning content.[26]

Reduced inequalities. The neurodiversity approach reduces inequalities, including those surrounding non-attendance and exclusion. Evaluations of high exclusion rates among neurodivergent children have acknowledged that problems often begin when a child's needs are not being met, and when there is a lack of transparent communication between students, parents and teachers.[28]

Reduced bullying. Neurodiversity-based approaches can help shift attitudes across a school. While there is no research on the efficacy of neurodiversity training for reducing bullying, evidence from the LEANS curriculum suggests that informing students about neurodiversity can change their attitudes about differences among their peers.[23] Including neurodivergent students in the classroom also reduces barriers for communication and collaboration between 'typically-developing' and 'atypically-developing' children, lessening social isolation among all students.

Sense of belonging. The importance of belonging cannot be overstated—it is a basic psychological need. Many students with lived experiences of neurodivergence (including neurodivergent children and their siblings) have a significantly lower sense of belonging at school and academic self-concept than their peers.[30] By investigating why students feel excluded and co-producing school policies with students and parents, educators can learn about their students' needs and foster a greater sense of belonging.

Conclusion: our responsibility to act

Building inclusive school environments in the UK requires us all to adapt. Not only do we need to reassess our beliefs about childhood development and create better systems to support learning about neurodiversity, we must also integrate findings from educational and developmental science into our educational practices. This brief was developed through a highly participatory collaboration between scientists, educators, clinicians, charity leaders, policymakers, and those with lived experience of neurodivergence. Its recommendations can be applied within schools with the confidence that they are informed by decades of research and direct experience.

All schools have a responsibility to offer their students a supportive, healthy environment in which they can learn, grow, and contribute to their communities. Recognising the latest research on neurodiversity and implementing inclusivity-oriented policies is vital to ensure that all students—regardless of need or ability—get the most out of their school experience. Measures that enhance a sense of belonging, academic engagement, student empowerment and neurodiversity awareness will shape students' lives for the better—both at school, and for years afterwards.

References

1. Special educational needs and disability code of practice: 0 to 25 years. London: UK Government; 2015 (https://www.gov.uk/government/publications/send-code-of-practice-0-to-25). **2.** Targeted funding to supplement the notional SEN budget. In: Gov.uk/The notional SEN budget for mainstream schools: operational guidance [website]. London: UK Government; 2022 (https://www.gov.uk/government/publications/pre-16-schools-funding-local-authority-guidance-for-2023-to-2024/the-notional-sen-budget-for-mainstream-schools-operational-guidance). **3.** Special educational needs in England. In: Gov.uk/Find statistics and data [website]. London: UK Government; 2022 (https://explore-education-statistics.service.gov.uk/find-statistics/special-educational-needs-in-england/2021-22). **4.** SEND Review: right support, right place, right time. Government consultation on the SEND and alternative provision system in England. London: UK Government; 2022 (https://www.gov.uk/government/consultations/send-review-right-support-right-place-right-time). **5.** Pastor PN, Reuben CA. Diagnosed attention deficit hyperactivity disorder and learning diability: United States, 2004–2006. Vital Health Stat 10. 2008;237:1–14. **6.** Gillberg C, Coleman M. The biology of autistic syndromes. London: Mac Keith Press; 2000. **7.** Joshi G, Faraone SV, Wozniak J, Tarko L, Fried R, Galdo M, et al. Symptom profile of ADHD in youth with high-functioning autism spectrum disorder: a comparative study in psychiatrically referred populations. J Atten Disord. 2017;21(10):846–855. doi:10.1177/1087054714543368. **8.** Narrow WE, First MB, Sirovatka PJ, Regier DA (editors). Age and gender considerations in psychiatric diagnosis: a research agenda for DSM-V. Washington DC: American Psychiatric Association Publishing; 2007. **9.** Astle DE, Holmes J, Kievit R, Gathercole SE. Annual research review: the transdiagnostic revolution in neurodevelopmental disorders. J Child Psychol Psychiatry. 2022;63(4):397–417. doi:10.1111/jcpp.13481. **10.** Cook A, Ogden J, Winstone N. Friendship motivations, challenges and the role of masking for girls with autism in contrasting school settings. Eur J Spec Needs Educ. 2018;33(3):302–315. doi:10.1080/08856257.2017.1312797. **11.** Halsall J, Clarke C, Crane L. "Camouflaging" by adolescent autistic girls who attend both mainstream and specialist resource classes: perspectives of girls, their mothers and their educators. Autism. 2021;25(7):2074–2086. doi:10.1177/13623613211012819. **12.** De Rossi P, Pretelli I, Menghini D, D'Aiello B, Di Vara S, Vicari S. Gender-related clinical characteristics in children and adolescents with ADHD. J Clin Med. 2022;11(2):385. doi:10.3390/jcm11020385. **13.** Kos JM, Richdale AL, Hay DA. Children with attention deficit hyperactivity disorder and their teachers: a review of the literature. Int J Disabil Dev Educ. 2006;53:147–160. doi:10.1080/10349120600716125. **14.** Department for Education: support for pupils with special educational needs and disabilities in England. London: National Audit Office; 2019 (https://www.nao.org.uk/wp-content/uploads/2019/09/Support-for-pupils-with-special-education-needs.pdf). **15.** Sadler JZ. Social context and stakeholders' values in building diagnostic systems. Psychopathology. 2005;38(4):197–200. doi:10.1159/000086091. **16.** Sciutto MJ, Terjesen MD, Bender Frank AS. Teachers' knowledge and misperceptions of attention-deficit/hyperactivity disorder. Psychol Sch. 2000;37(2):115–122. doi: 10.1002/(SICI)1520-6807(200003)37:2<115::AID-PITS3>3.0.CO;2-5. **17.** Opportunity for all: strong schools with great teachers for your child. London: UK Government; 2022 (https://www.gov.uk/government/publications/opportunity-for-all-strong-schools-with-great-teachers-for-your-child). **18.** Princing M. What is neurodiversity and why does it matter? Right as Rain by UW Medicine. 19 September 2022 (https://rightasrain.uwmedicine.org/mind/mental-health/neurodiversity-or-neurodivergence). **19.** Austin RD, Pisano GP. Neurodiversity as a competitive advantage: why you should embrace it in your workforce. Harvard Business Review. May–June 2017 (https://hbr.org/2017/05/neurodiversity-as-a-competitive-advantage). **20.** The UDL guidelines version 2.2 [website]. Lynfield: CAST; 2018 (https://udlguidelines.cast.org/). **21.** Westermann G, Mareschal D, Johnson MH, Sirois S, Spratling MW, Thomas MSC. Neurocontructivism. Dev Sci. 2007;10(1):75–83. doi:10.1111/j.1467-7687.2007.00567.x. **22.** The good childhood report 2022. London: The Children's Society; 2022 (https://www.childrenssociety.org.uk/information/professionals/resources/good-childhood-report-2022). **23.** Learning About Neurodiversity at School (LEANS) [website]. Edinburgh: University of Edinburgh; 2022 (https://salvesen-research.ed.ac.uk/leans, accessed 10 January 2023). **24.** Alcorn AM. A school-based evaluation study of a teacher-delivered, whole-class neurodiversity teaching programme to promote accepting and inclusive environments [presentation to Autism Europe Congress]. University of Edinburgh; October 2022 (https://www.youtube.com/watch?v=4O24egNocXw). **25.** Artemis-A [website]. Cambridge: University of Cambridge; 2023 (https://www.artemis-a.org/). **26.** Hainline AD. The effect of Universal Design for Learning on student engagement and achievement in a southwest Missouri school district [thesis]. St Charles: Lindenwood University; 2022 (https://digitalcommons.lindenwood.edu/dissertations/733/). **27.** Duffy G, Elwood J. The perspectives of 'disengaged' students in the 14–19 phase on motivations and barriers to learning within the contexts of institutions and classrooms. London Rev Educ. 2013;11(2):112–126. doi:10.1080/14748460.2013.799808. **28.** Guldberg K, Wallace S, Bradley R, Perepa P, Ellis L, MacLeod A. Investigation of the causes and implications of exclusion for autistic children and young people. Birmingham: University of Birmingham Autism Centre for Educaiton and Research; 2022 (https://www.birmingham.ac.uk/documents/college-social-sciences/education/reports/causes-and-implications-of-exclusion-for-autistic-children-and-young-people.pdf).

About

This brief was developed in collaboration with scientists, educators, clinicians, charity leaders, policymakers, and those with lived experience of neurodivergence as part of a meeting held by the University of Cambridge as part of the Global Scientific Conference on Human Flourishing.

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