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Review

Neurodiversity-Affirming Autism Training for School Staff in the United Kingdom: A Scoping Review

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Abstract

Objective: This scoping review mapped the availability and content of neurodiversity-affirming autism training for school staff in the United Kingdom.

Introduction: Autistic young people often report negative experiences in mainstream education, with limited educator knowledge identified as a contributing factor. Although autism training is considered important, access remains inconsistent and the extent to which provision reflects neurodiversity-informed perspectives is unclear.

Inclusion Criteria: The review included academic and grey literature describing autism training for school staff that explicitly reflected a neurodiversity-informed perspective. The extent to which training was neurodiversity-affirming was assessed using Hartman et al.'s framework, emphasising autistic voice, positive identity, environmental adaptation, self-advocacy and valuing neurodiversity. Only English-language sources were included.

Methods: A three-stage search strategy was used. Stage 1 involved searches of APA PsycInfo, British Education Index, CINAHL, Web of Science, Teacher Reference Center and Ovid Medline. Stage 2 comprised targeted searches of Google, Google Scholar, EThOS and ProQuest. Stage 3 involved consultation with content experts. Data were analysed using descriptive numerical analysis, deductive framework analysis and inductive qualitative content analysis.

Results and Implications: Few training courses aligned with neurodiversity-affirming principles. Most reflected deficit-based perspectives or lacked conceptual clarity, creating a difficult-to-navigate training landscape. Co-produced, research-informed training is needed to support inclusive practice and improve school experiences for autistic pupils.

Lay Abstract

Many autistic young people say they find mainstream school difficult. They often wish teachers understood autism better. Teachers report receiving limited autism training and would welcome more support. In this research, we wanted to find out what autism training is available for school staff in the United Kingdom and whether it reflects neurodiversity-informed understandings of autism. The neurodiversity paradigm views autism as a natural form of human difference, rather than something that needs to be fixed. To do this, we searched academic databases and online sources and contacted experts for additional information. We identified training that contained neurodiversity-affirming characteristics and reviewed its content, development and delivery. We found that only a small proportion of available training was clearly aligned with neurodiversity-affirming principles. Most training was based on deficit-focused understandings of autism or did not provide enough information for its underlying approach to be determined. This creates a complex training landscape that can make it difficult for teachers and schools to identify appropriate professional development. Wider systemic barriers within schools may create additional challenges for implementing inclusive practice. Our findings suggest that schools would benefit from training that is grounded in neurodiversity-informed principles, meaningfully involves autistic people in its development and delivery, and draws on research as well as lived experience.

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Keywords
autism, neurodiversity-affirming training, schools, teacher training, scoping review, special educational needs and disabilities

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Introduction

Education policy is devolved within the United Kingdom, resulting in distinct education systems and special educational needs and disabilities policy contexts across England, Scotland, Wales and Northern Ireland (Knight et al., 2025). In England, there are over 180,000 autistic pupils, with approximately 73% educated in mainstream school settings (National Autistic Society [NAS], 2021). Evidence indicates that many experience substantial challenges. Seventy-four per cent of parents report unmet needs, and only 26% of autistic pupils report feeling happy in school (NAS, 2023). Autistic pupils are more than twice as likely as their non-autistic peers to be excluded (Department for Education, 2022), and approximately 70% have a mental health problem (Autistica, 2019). Both autistic pupils and their parents frequently associate well-being difficulties with negative school experiences (Connolly et al., 2023; Goodall, 2018). Autistic young people often describe school as characterised by bullying and peer victimisation (Humphrey & Hebron, 2015; Maïano et al., 2016), persistent loneliness (Horgan et al., 2022; Locke et al., 2010) and a sense that teachers dislike them (Billington et al., 2024). Many report masking autistic traits to appear more socially acceptable (Mesa & Hamilton, 2022a), which is associated with adverse mental health outcomes (Cage et al., 2018; Chapman et al., 2022).

NAS survey findings show that 70% of autistic young people believe their school experience would improve if teachers better understood autism (NAS, 2021). Limited autism-related knowledge among school staff has been linked to negative attitudes and less inclusive practice (Able et al., 2015; Majoko, 2016). Although some studies indicate that teachers feel confident supporting autistic young people (NAS, 2023), other studies indicate many feel underprepared (Able et al., 2015; Anglim et al., 2018; Majoko, 2016) and would welcome further professional development (Humphrey & Symes, 2013; Roberts & Simpson, 2016). In a systematic review, Petersson Bloom and Holmqvist (2022) found that teachers generally held positive attitudes towards inclusion, but a lack of professional development opportunities limited implementation of supportive strategies. Training is identified as a key professional development activity that can shape educational experiences of autistic pupils, as teachers influence both classroom practice and peer attitudes (NAS, 2023). Department for Education (DfE) has acknowledged this need and, from 2007 onwards, commissioned the Autism Education Trust (AET), renamed in 2026 as the *Neuroinclusive Education Network*, to deliver tiered autism training through local provider networks. Additionally, the DfE is funding a national pilot, due to be fully evaluated in late 2026: *Partnerships for Inclusion of Neurodiversity in Schools* (PINS). The project aims to improve the school experiences of neurodivergent children in primary settings. It facilitates collaboration between schools, health professionals and families/carers, who jointly audit local needs and coordinate improvement activities, which may include commissioning training from existing provision (DfE, 2025a).

Despite increasing political attention, few studies have explored the extent of teachers' engagement with autism-related professional development or the characteristics of existing training. The interim PINS evaluation identifies limited staff release time as a barrier to implementation (DfE, 2025b). More broadly, insufficient time for special educational needs training has been reported within both post-qualification and initial teacher education (Jones, 2019; Smythe, 2025). Teachers in mainstream schools also have less access to specialist training than those in special schools (Cook & Ogden, 2021). NAS data indicate that relatively few teachers receive substantial autism-related training, while more recent evidence suggests that neurodiversity-related training is increasingly common but highly variable in quality and content (Hamilton & Cook, 2026; NAS, 2023). Good quality training should draw on current evidence and reflect neurodiversity-informed understandings of autism (Pellicano & den Houting, 2021).

The neurodiversity paradigm conceptualises neurocognitive variation as a natural and valuable aspect of human diversity (Leadbitter et al., 2021) and frames autism as a heterogeneous constellation of differences encompassing both strengths and challenges (Cherewick & Matergia, 2023; Walker, 2014). Although neurodiversity-informed approaches have become increasingly prominent within autism research, policy and practice, there is currently no universally accepted definition of neurodiversity-affirming practice. Dwyer (2022) highlights that multiple approaches to neurodiversity coexist within the literature and that insufficient distinction contributes to ongoing debate regarding their application. Nevertheless, substantial overlap in key principles exists across different conceptualisations, including recognition of autistic perspectives, rejection of exclusively deficit-based understandings of autism, support for autonomy and well-being, and consideration of

environmental factors alongside individual characteristics in intervention design. For example, Ne'eman and Pellicano (2022) emphasise autonomy, acceptance and well-being as central features of neurodiversity-informed approaches, while raising concerns regarding interventions that seek to normalise autistic people. Similarly, Hartman et al. (2023) highlight autistic voice, acceptance of autistic ways of being, self-advocacy, identity development and environmental adaptation. For the purposes of this review, Hartman et al.'s (2023) framework was adopted to operationalise neurodiversity-affirming practice. The framework comprises five characteristics: (1) centring autistic voice; (2) affirming autistic ways of being and viewing characteristics as differences rather than deficits; (3) modifying environments to create a better person-environment fit; (4) supporting self-advocacy and positive autistic identity and (5) advocating for diversity and the value of living a disabled life.

In educational contexts, neurodiversity-informed approaches emphasise adapting environments to support autistic learners' authentic ways of being. In contrast, the pathology paradigm locates disability within the individual, viewing autism as a deficit relative to an assumed 'norm' (O'Dell et al., 2016; Pellicano & den Houting, 2021). This has contributed to stigma, 'othering' and discrimination against autistic people (Botha et al., 2022; Liao et al., 2019; Pearson & Rose, 2021). Educational interventions informed by this perspective typically focus on modifying the child rather than the environment (Glynne-Owen, 2010). Consequently, some interventions informed by this perspective have been criticised for prioritising the reduction or normalisation of autistic differences in ways that encourage autistic people to conform more closely to non-autistic norms (Pearson & Rose, 2021; Pellicano & den Houting, 2021). By contrast, neurodiversity-informed approaches emphasise acceptance, accommodation, autonomy and environmental adaptation. Research suggests teachers draw simultaneously on sociocultural narratives derived from both neurodiversity-informed and pathology-oriented understandings of autism (Cetintas et al., 2026). Autistic teachers similarly report colleagues continuing to view autism through a deficit lens (Wood et al., 2022).

There is limited clarity about the extent to which existing training promotes pathology-orientated and/or neurodiversity-informed understandings. In health-related research, concerns have been raised about the potential consequences of training grounded in the pathology paradigm, which may reinforce deficit-based interpretations (Dunn et al., 2024; Van Den Plas et al., 2024). Conversely, neurodiversity-informed training has been associated with reduced stigma and improved outcomes (Bury et al., 2022).

Neurodiversity-informed approaches are increasingly recognised as essential for cultivating inclusive school environments that foster psychological safety, belonging and well-being (Rajotte et al., 2025). Achieving this requires training that is informed by research, grounded in neurodiversity principles, and meaningfully incorporates autistic lived experience (Wood et al., 2022). However, despite ongoing debate regarding definitions of neurodiversity-affirming practice, little is known about the extent to which available training reflects broad principles associated with neurodiversity-affirming practice as described within the wider neurodiversity-informed literature. To address this gap, we conducted a scoping review of published and grey literature (Tricco et al., 2016). The review addressed the following research questions:

1. To what extent are autism training packages available to UK school staff neurodiversity-affirming?
2. How have these training packages been developed and evaluated?
3. To what extent have autistic people contributed to their design, development and/or delivery?
4. What are the modes of delivery, core content and operational characteristics of available neurodiversity-affirming training?

Method

The review was conducted in accordance with the Joanna Briggs Institute (JBI) methodology for scoping reviews (Aromataris et al., 2024). A protocol was prepared using the Preferred Reporting Items for Systematic Review and Meta-analyses extension for Scoping Reviews (PRISMA-ScR) (Tricco et al., 2018) and registered on the Open Science Framework: https://osf.io/uhxfm/.

In addition to JBI methodology, Arksey and O'Malley's (2005) framework and Levac et al.'s (2010) recommendations informed review conduct, while PRISMA-ScR (Tricco et al., 2018) guided reporting. Hartman et al.'s (2023) framework was used to operationalise neurodiversity-affirming practice and guide data analysis. This framework was selected during protocol development because it provided the most explicit and operationalised criteria identified for assessing neurodiversity-affirming practice. The framework was developed by a mixed-neurotype team and incorporates neurodivergent perspectives. Although alternative conceptualisations of neurodiversity-affirming practice exist, Hartman et al.'s framework reflects many principles identified across the wider neurodiversity-informed literature while providing sufficiently clear criteria to support systematic and transparent analysis.

A scoping review methodology was selected because the aim was to map the characteristics and conceptual foundations of available training rather than evaluate effectiveness. Scoping reviews are well suited to synthesising diverse evidence sources, including grey literature, and to examining emerging or conceptually complex fields where key characteristics and definitions remain unclear (Peters et al., 2020;

Tricco et al., 2018). They provide a broad overview of an evidence landscape and identify gaps for future research.

The review followed Arksey and O'Malley's (2005) five-stage framework: (1) formulating research questions, (2) identifying relevant studies, (3) selecting eligible studies, (4) charting data and (5) collating, summarising and reporting results. To enhance rigour, Levac et al.'s (2010) recommendations were incorporated, including the use of a structured data charting form and subdividing stage five into: (a) analysis of findings, (b) reporting outcomes in relation to research questions and (c) considering implications for research and practice.

Research Team and Positionality

The study was conducted by a mixed-neurotype research team, including an autistic researcher with lived experience of mainstream education, researchers who were parents of neurodivergent children educated in mainstream schools and researchers with experience of conducting longitudinal research on autistic pupils' school experiences. Consistent with participatory and neurodiversity-informed research principles (Fletcher-Watson et al., 2019), discussions regarding the research design, search strategy, inclusion criteria, data interpretation and reporting were informed by both academic expertise and lived-experience perspectives. The team's positionality influenced the decision to examine neurodiversity-affirming training, the selection of research questions and the inclusion of autistic involvement in training design and delivery as a core area of analysis.

Eligibility Criteria

The review sought literature that met the inclusion criteria, which were applied in two stages. The rationale for this two-stage inclusion/exclusion process was to first identify training grounded in neurodiversity and/or pathology paradigms in order to address Research Question 1, namely the extent to which currently available training is neurodiversity-affirming, before applying additional criteria to address the remaining research questions. Stage 1 identified all autism-related training irrespective of conceptual orientation, enabling examination of the proportion of available training aligned with pathology and neurodiversity paradigms. Stage 2 explored in greater depth those courses that contained at least some neurodiversity-affirming content.

Stage 1 Screening:

Included data sources related to:

- Autism-specific or neurodiversity-related training with autism content, derived from neurodiversity-informed and/or pathology-orientated perspectives. Training was defined as synchronous (in-person or online) or asynchronous (pre-recorded e-learning).
- Training deliverable in English to UK primary or secondary school staff, including those working in mainstream schools, special schools and alternative provision settings.
- Grey literature was included if training was delivered in 2025 or bookable for future dates. Database returns included training developed in the United Kingdom or countries with comparable education systems.
- Sources included primary research (any methodology), peer- and non-peer-reviewed articles, opinion pieces, theses, reports, conference presentations, unpublished reports and training advertised online.

Excluded: Data sources related to training designed/delivered outside the United Kingdom in non-comparable systems, non-English sources, training aimed solely at preschool, further/higher education, healthcare, or workplace settings and web-based training delivered prior to 2025 with no future dates.

Stage 2 Full Text:

Included data sources related to:

- All inclusion criteria from Screening PLUS
- Training that contained neurodiversity-affirming content, operationalised using Hartman et al.'s (2023) criteria:
  - Centres autistic voice;
  - Affirms autistic ways of being and frames characteristics as 'different' not 'deficient';
  - Seeks to modify environments for better fit;
  - Enables self-advocacy and positive autistic identity;
  - Advocates for diversity and living a disabled life.
- Training that combined neurodiversity-affirming and pathology-model content.

Courses were not required to demonstrate all five of Hartman et al. (2023) characteristics for inclusion but were included where at least one neurodiversity-affirming characteristic was identified. Courses containing both neurodiversity-affirming and pathology-orientated content were retained and coded as mixed-content courses. Only courses containing exclusively deficit-focused content were excluded.

Excluded: Data sources relating to training that was solely deficit-focused (e.g. describing autism as a disorder, presenting a deficit-based view, promoting pathologising theories or advocating compliance-based behavioural approaches), and sources lacking sufficient information to determine whether content reflected a neurodiversity-informed, pathology-orientated or mixed perspective.

Table 1. Keywords and Search Terms.

#	Keywords	Search Terms (All OR)
#1 in Title/ Abstract	Autism	Autism, Autistic, Asperger*, Autism Spectrum Disorder, Autism Spectrum Condition, ASD, ASC, Pervasive developmental disorder, PDD, Neurodivers*, Neurodiverg*
AND #2 in Title/ Abstract	Teachers, Teaching assistants, Educators, school staff, school leaders	Teach*, School*, Educat*
AND #3 in Title/ Abstract	Training	Train*, Learn*, CPD*, Develop*, Educat*, Program*, Package*, Intervention*, Awareness, Information, Course, Series, Workshop

Search Strategy

The search comprised database searching, grey literature searching and consultation with content experts. A summary of the approach is provided here, with a detailed rationale presented in the prospectively registered Open Science Framework protocol, which was fully adhered to.

The database search strategy is presented in Table 1. Initial search terms were identified through a preliminary search of Medline (OVID) and Medical Subject Headings (MeSH). Terms were refined in collaboration with an academic librarian (Aromataris et al., 2024), with attention to autism diagnostic terminology used over the past 25 years, reflecting the emergence of the neurodiversity paradigm, and spelling variations.

To capture the full breadth of the available literature, the search strategy prioritised high sensitivity to maximise the likelihood of identifying all relevant sources (Higgins & Green, 2008; Sargeant & O'Connor, 2020). It was applied to APA PsycInfo, British Education Index, CINAHL, Web of Science, Teacher Reference Centre and Ovid Medline.

Searches were limited to English language and to sources published from 2000 onwards; no geographical limits were applied, as UK-based researchers may publish in international journals. Backward citation searching involved manual screening the reference lists of all full-text sources. Forward citation searching was conducted using Google Scholar. The same terms were applied in ProQuest, limiting source-type dissertations, theses and conference papers.

Google searching followed established guidance (Godin et al., 2015; Stansfield et al., 2016). Custom search features were used to restrict results to the United Kingdom and English-language sources. Twenty-five unique searches were conducted using combinations of search terms informed by Google's automatic truncation functionality, as detailed in the protocol. A predefined stopping rule of 10 pages of results per search string was adopted to balance comprehensiveness with the practical demands of grey literature screening. Titles and summary text from the first 10 pages of results for each search were screened, resulting in approximately 2,600 Google search results being reviewed across all searches. Potentially relevant items were retained for further review.

Webpages meeting the relevance criteria were bookmarked in Firefox and stored in a dedicated folder to facilitate identification of new sources and prevent duplication, as previously saved URLs were automatically flagged (Godin et al., 2015). URLs were exported to Microsoft Excel and alphabetised. Where multiple webpages originated from the same organisation, they were reviewed to determine whether they referred to a single course or multiple courses. Where a single course was identified, only the main landing page was retained.

The same search term combinations were applied to Google Scholar using advanced search, employing an 'all of the words' strategy and a publication date limit from 2000 onwards. Results were sorted by relevance, and the first 10 pages were screened. In addition, Google advanced search was also used to identify the EThOS content (thesis site:ac.uk) and UK government webpages (gov.uk). All relevant items were bookmarked and managed as above.

The final component involved emailing content experts to identify additional sources (Godin et al., 2015). Experts were identified through internet searches; details are provided in the protocol.

Evidence Selection

All citations identified through database searching, ProQuest, and Google Scholar were collated and uploaded into Rayyan (Ouzzani et al., 2016), where duplicates were removed. The first and second authors piloted the inclusion and exclusion criteria by independently screening the titles and abstracts of a random sample of 20 data sources and 20 webpages. No amendments were required.

At Stage 1, a verification process followed Mak and Thomas (2022). Both reviewers independently screened a random 10% sample of the sources against the Stage 1 criteria. Agreement was 99%, with differences resolved through discussion. The first author then screened the remaining records.

At Stage 2, all potentially relevant sources were retrieved and uploaded to Rayyan as PDFs. Both authors independently and blindly reviewed the full text of 10% of sources, recording reasons for exclusion against Stage 2 criteria.

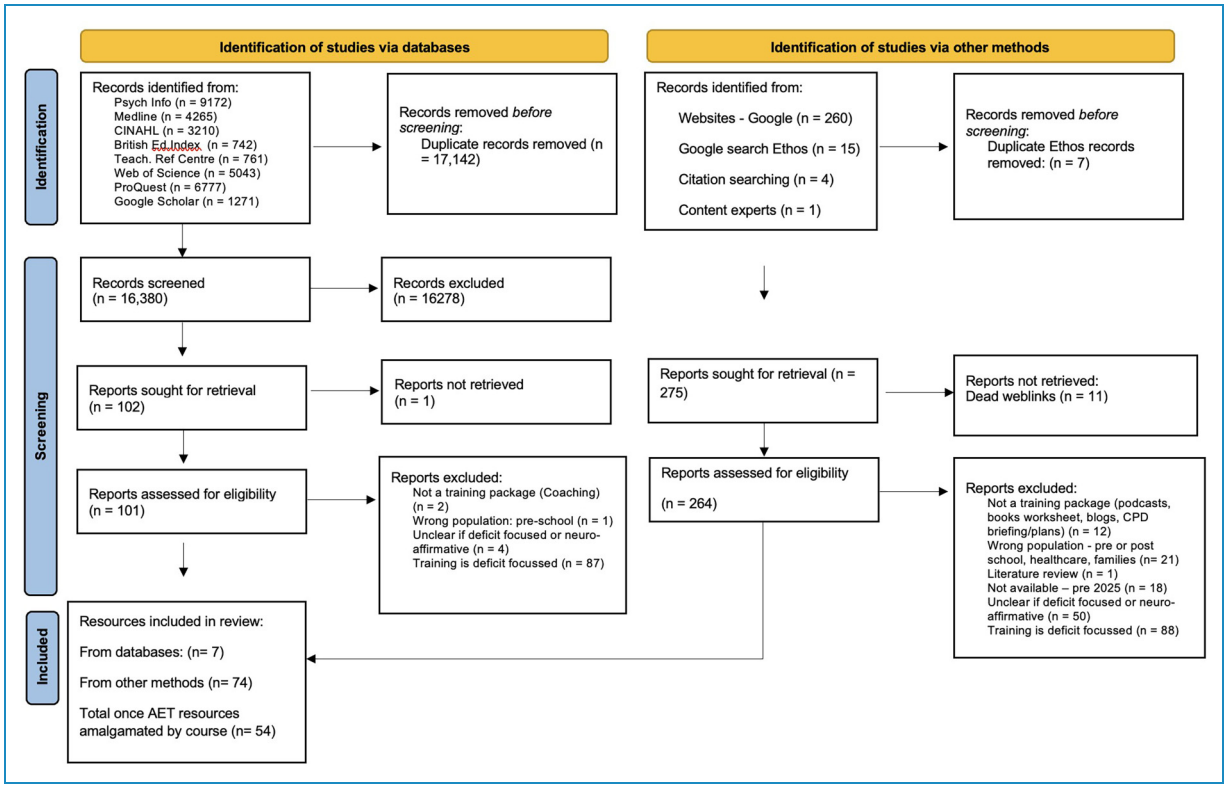


Figure 1. PRISMA flow diagram.

Agreement was 100%, after which the first author completed the remaining sources. Sources excluded at this stage because their conceptual orientation could not be determined typically provided insufficient information to establish whether training reflected a neurodiversity-informed, pathology-orientated or mixed perspective. For example, some descriptions referred only to 'increasing understanding of autism' or 'developing inclusive practice', without providing information about how autism was conceptualised within the training.

For website screening, both authors independently screened all webpages at both Stages 1 and 2. Landing pages were reviewed and flagged for inclusion on the Excel spreadsheet, and linked pages examined at full-text stage. Agreement exceeded 95%, with consensus reached through discussion.

Multiple sources related to AET training were identified due to repeated course descriptions across AET webpages and local provider sites. Six evaluation reports were also identified through database and citation searching. These sources were amalgamated by course, reducing 31 individual items to five.

Data Extraction

The first and second authors independently extracted all data sources to reduce error and bias (Peters et al., 2020). A data charting form was developed by the first author to ensure consistent data extraction, piloted by both authors on 10 sources and revised slightly for clarity.

Where data sources lacked information relevant to some extraction categories (Arksey & O'Malley, 2005), or where more information was required, the first author contacted authors or organisations by email for further information (Bishop-Fitzpatrick & Kind, 2017; Godin et al., 2015). Consistent with scoping review guidance, no critical appraisal was undertaken (Peters et al., 2020). An abbreviated summary of each included source is presented in Supplementary File 1.

Data Analysis

Initial data analysis was undertaken by the first author and reviewed by the full research team. The PRISMA-ScR checklist and flow diagram (Tricco et al., 2018) were used to present the results (Figure 1), detailing the records identified, screened, included and excluded at each stage, with reasons for exclusion.

A descriptive numerical analysis of the extracted data was conducted using frequency counts and percentages (Levac et al., 2010; Pollock et al., 2023). This addressed Research Questions 1–3 and established the availability of neurodiversity-affirming training, autistic involvement in design and delivery, and how training was developed, evaluated and delivered.

To address Research Question 4, a qualitative content analysis mapped key characteristics of neurodiversity-affirming training. Drawing on Hartman et al.'s (2023) operational definition of *neurodiversity-affirming* practice, an *a priori* analytical framework was developed.

A deductive synthesis (Davy et al., 2016; Glegg & Levac, 2018) was applied to determine which predefined characteristics were present and to calculate their frequency across courses.

An inductive qualitative content analysis was then conducted using open coding to categorise extracted descriptions of course content and identify themes not captured within the *a priori* framework (Peters et al., 2020; Pollock et al., 2023).

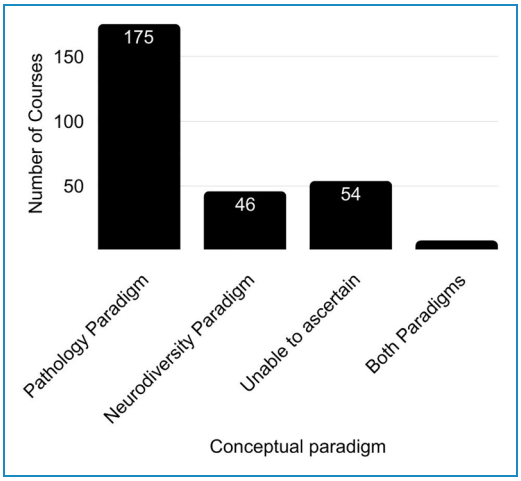


Figure 2. The conceptual paradigm underpinning courses.

Results

Source Description

The types of resources identified are summarised in Supplementary Table S1. Most were located through grey literature searching and were primarily course advertisements. In contrast, sources retrieved through database and citation searching were mainly course evaluations, including five UK evaluation reports, one UK course report, two US theses and three peer-reviewed journal articles – one each from the US, Sweden and Australia. Courses were assigned identification numbers to facilitate reporting. Course identifiers (e.g. #12) are used throughout the Results section. An abbreviated summary of each included course and course-level coding are provided in Supplemental Tables S1 and S2.

Of the 53 included courses, 38 were designed specifically for school-based staff and 15 for a broader audience but described as applicable to school settings. Course duration is presented in Supplemental Table S1; most courses lasted 2 h or less.

Research Question 1: To What Extent are Autism Training Courses Neurodiversity-Affirming?

A total of 282 unique autism training courses deliverable in the United Kingdom were identified. Consistent with the Stage 2 inclusion criteria, courses were not required to demonstrate all five Hartman characteristics for inclusion. Courses were classified using predefined criteria derived from Hartman et al.'s (2023) framework rather than solely on the basis of providers' descriptions of their training. Explicit statements of alignment with the neurodiversity paradigm were considered as one indicator of neurodiversity-affirming practice alongside other evidence contained within course descriptions. The conceptual paradigms underpinning these courses are summarised in Figure 2.

Sixty-two per cent of courses ($n = 175$) included descriptions indicating alignment with the pathology paradigm. Many focused on equipping staff to implement interventions intended to modify behaviours, social interaction or communication which were framed as deficient, with limited emphasis on developing broader understandings of autism.

Analysis by source type revealed that more sources identified through database searching were aligned with the pathology paradigm ($n = 87$) than with the neurodiversity paradigm ($n = 7$). Nineteen per cent of courses ($n = 53$) included some neurodiversity-affirming content. However, eight of these also contained content aligned with the pathology paradigm, including reference to autism as a disorder (#49), content related to deficit-focused theories of autism (#40) and teaching strategies to 'reduce disruptive behaviour' through behaviour reinforcement (#46). Thus, only 16% of all courses ($n = 46$) were exclusively aligned with the neurodiversity paradigm.

Of the 53 courses that included any neurodiversity affirming content, 21 (40%) explicitly stated alignment with the neurodiversity paradigm or described the concept of neurodiversity, though two also incorporated pathology-orientated content. For a further 19% of courses ($n = 54$), the underlying conceptualisation of autism could not be determined; most of these were grey literature sources ($n = 50$).

Consequently, of the 282 autism training courses identified, only 19 courses (7% of all courses, 36% of included courses) both overtly reported alignment with the neurodiversity paradigm and had content descriptions consistent with this conceptualisation.

Research Questions 2 and 3: Development, Delivery, Autistic Involvement and Evaluation of Courses

For many courses, information regarding the development process was either unavailable or described only in

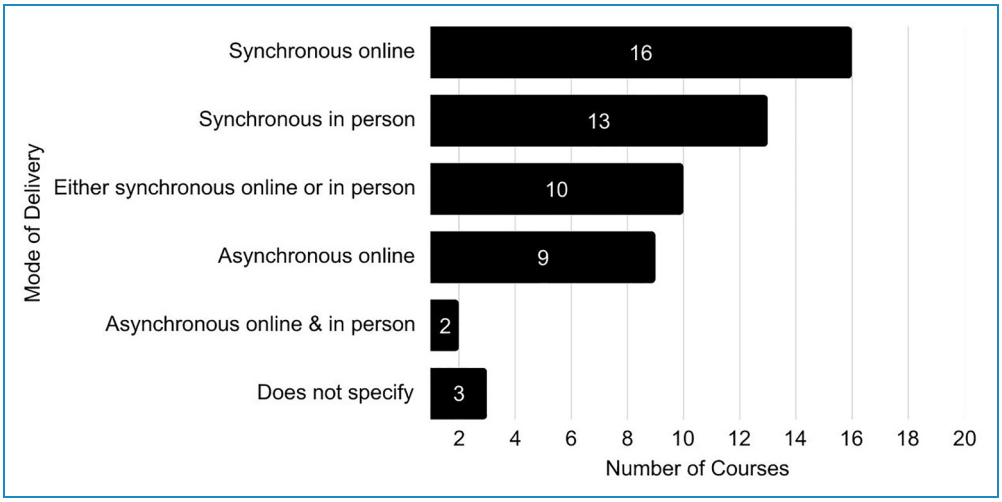


Figure 3. Neurodiversity-affirming courses: modes of delivery.

general terms. Course descriptions frequently stated that the content was 'grounded in research' or 'evidence-based' without specifying the evidence underpinning these claims. Similarly, information about course developers and trainers was often limited. Some providers referred to 'autism training consultants', 'autism experts' or even 'world leaders in the autism field' without providing further details regarding their qualifications, expertise, or lived experience.

Six courses (11%) explicitly identified specific research studies or projects that had informed the development of training materials. For five of these, this information was not provided within course descriptions but was identified through separate evaluation reports located via database or citation searching.

Where information regarding course developers or trainers was available, thirteen of the 53 included courses (26%) identified postgraduate researchers or academics, and 22 (40%) reported involvement of teachers, trained autism specialists, or health and social care professionals, typically drawing on practice experience. Among these 22 courses, three included trainers who also identified as neurodivergent (e.g. an autistic teacher). A further three included trainers who were parents of autistic people.

Autistic involvement in course development was reported in 21 courses (40%). Of these, seven courses (13%) involved autistic young people, either through direct contributions to training materials or participation in consultation activities.

Autistic involvement in course delivery was less common, being reported in 15 courses (24%). Thirteen courses included an autistic or otherwise neurodivergent adult facilitator, while two asynchronous online courses featured video or audio content in which autistic young people shared their lived experiences (4%).

Details of autistic and young person involvement for individual courses are provided in Supplemental Table S1.

Regarding organisational affiliation, 18 courses were delivered by independent companies, 20 by local or national autism charities, seven by statutory organisations, one by a school council and seven by universities.

Fifteen courses (28%) reported formal evaluation. Twenty courses (38%) provided no evidence of evaluation, while 17 (32%) presented testimonials without describing how these data had been collected.

Research Question 4: Modes of Delivery and Course Content

The modes of course delivery are summarised in Figure 3. Most were delivered synchronously, either online or in person.

As shown in Table 2 and Supplemental Table S2, the representation of the individual neurodiversity-affirming characteristics varied considerably across courses. Characteristics related to self-advocacy, positive autistic identity and the value of diversity and disabled lives were least frequently represented. Table 3 shows that most courses included either two ($n = 25$; 47%) or three ($n = 22$; 42%) characteristics. Only one course (2%) incorporated all five key characteristics.

The inductive thematic analysis identified three themes related to training content across the courses identified as neurodiversity-affirming.

Theme 1: Understanding Autism

Almost all courses (except for #27) included in this review contained content relating to understanding autism from a

Table 2. Frequency of Neurodiversity-Affirming Characteristics Across Included Courses (Based on Hartman et al., 2023).

Neurodiversity-Affirming Characteristic	*n* (%)
Centres autistic voice	37 (70)
Affirms autistic ways of being and understands them as 'different' and not as 'deficient'	49 (92)
Seeks to modify environments as part of the approach to enable a better fit with the person	38 (72)
Enables school staff to support young people to develop self-advocacy and a positive autism identity	2 (4)
Advocates the value of diversity and of living a disabled life	1 (2)

Table 3. Number of Neurodiversity-Affirming Characteristics Represented Per Included Course (Based on Hartman et al., 2023).

Number of Characteristics	*n* (%)
1	5 (9)
2	25 (47)
3	22 (42)
4	0 (0)
5	1 (2)

neurodiversity perspective. This content primarily focused on areas of difference and strength in relation to cognition, social interaction and communication, and sensory processing. For example, #19 described focussing on 'the main areas of difference for autistic people', #41 described content related to autistic people's 'strengths and unique attributes' and #12 reported that its aims was to 'increase your knowledge, understanding and acceptance of autism from a neurodiverse perspective'.

Several courses additionally included content relating to the presentation, prevalence, and lived experiences of autistic girls and women (#5, 9, 13, 22, 31, 40); the diagnostic process (#22, 31, 33, 40, 41, 44, 51); the evolution of conceptual understandings of autism over time (#19, 43, 44, 45, 49, 50) and common myths, stereotypes and harmful narratives surrounding autism (#15, 19, 31, 33, 28, 41, 44, 45, 50).

In many courses, this content was applied broadly to educational settings (#2, 4, 6, 12, 13, 14, 15, 23, 24, 28, 29, 31, 32, 36, 37, 38, 45, 46, 47, 48, 49, 50, 51, 52, 53). Other courses applied this understanding to specific educational contexts, including the primary phase (#28), secondary phase (#10, 12, 29), school transitions (#25), school-related anxiety (#26) and school non-attendance (#27).

Theme 2: Impact of, and Need to Change, the Environment

Several courses included content related to the impact of the environment on autistic people's behaviour, learning, anxiety, and mental health. For example, #14 described content related to 'issues that can arise for autistic and neurodivergent pupils at school, because the school environment can provide lots of challenges for neurodivergent pupils' and #23 covered content related to contextual 'barriers to learning'.

Some considered this as the immediate environment inhabited by the individual, while others took a broader societal perspective. For example, #43 included content related to being able to 'identify and challenge societal barriers'. Concepts of masking, meltdowns, shutdowns and burnout were frequently understood as responses to environmental demands and barriers (#1, 9, 13, 14, 23, 25, 29, 31, 32, 43, 44, 45), for example:

> We will provide you with a framework to understand what behaviour is and to analyse the environment so that Autistic pupils are under less stress from their school environment. We will look at avoidance, withdrawal, masking, self-harm, controlling behaviour and other presentations of anxiety responses and teach you to look beyond behaviours to find the root causes. (#45)

Many included practical strategies for environmental change as outlined in Supplemental Table S3.

Theme 3: Connection and Belonging

Several courses included content emphasising the importance of relationships that foster a sense of belonging. This content centred on the development of authentic, humanising and collaborative relationships that communicate connection and acceptance (#1, 2, 3, 13, 16, 17, 24, 28, 32, 33, 41, 44, 46, 50, 51). For example, #1 referred to interventions that 'support connection', #32 highlighted 'the importance of collaborative partnerships' and #24 emphasised 'getting to know a pupil'.

Course descriptions also highlighted the importance of practitioner self-awareness, empathy and reflective practice as foundations for delivering compassionate and ethical support (#1, 13, 14, 15, 16, 17, 18, 24, 26, 29, 32, 36, 41, 42, 43, 44, 45). For example, #18 includes content related to reviewing 'values', #26 encouraged participants to 'become more aware of your own actions and how these might impact on a pupil' and #13 aims for participants 'to learn how to put yourself in the shoes of autistic students'.

Discussion

This review sought to map the availability, characteristics and conceptual orientation of autism training available to UK school staff. The findings indicate that the autism training landscape available to UK school staff remains strongly influenced by pathology-based conceptualisations of autism, despite growing advocacy for neurodiversity-informed approaches within autism research, educational policy and teacher professional development (DfE, 2025a; Hamilton & Cook, 2026; Pellicano & den Houting, 2021).

Neurodiversity-affirming training represented only a small proportion of the available provision. With just 16% of courses classified as exclusively neurodiversity-affirming, teachers seeking training aligned with contemporary neurodiversity-informed perspectives may encounter relatively limited options. Several courses also combined elements of neurodiversity-affirming and pathology-orientated approaches, creating conceptual ambiguity within the training landscape. The coexistence of neurodiversity-affirming and pathology-orientated content may reflect a field undergoing conceptual transition. Although neurodiversity-informed perspectives are increasingly influential within autism research and practice, the predominance of pathology-orientated content may reflect the historical dominance of deficit-based understandings of autism and the slow pace with which new conceptual understandings become embedded in professional practice (Pellicano & den Houting, 2021).

The presence of these contrasting perspectives has important implications for schools seeking to commission professional development. A lack of transparency regarding conceptual foundations may make it difficult to distinguish between genuinely neurodiversity-affirming provision and training that adopts neurodiversity-related language whilst retaining predominantly deficit-orientated assumptions. Such inconsistency may expose autistic pupils to mixed messages regarding autism and autistic ways of being, with potential implications for identity development (Mesa & Hamilton, 2022b), and may help explain why teachers are reported to draw simultaneously upon both neurodiversity-informed and deficit-based narratives when discussing autism (Cetintas et al., 2026).

These challenges may be compounded by the realities of school commissioning processes. Teachers and school leaders, who may not always have strong knowledge of neurodiversity-informed approaches and often work under substantial time pressures, frequently source professional development independently (Hamilton & Cook, 2026; Jones, 2019). Teacher preferences for in-person, school-based training (Smythe, 2025) may further influence commissioning decisions. However, fewer than half of identified courses were delivered face-to-face, and many were offered at external venues, suggesting a potential mismatch between staff preferences and the available provision. Although national initiatives such as the PINS pilot provide funding for bespoke training opportunities, schools remain responsible for identifying appropriate provision. The PINS evaluation indicates that some local teams developed or adapted training materials themselves (DfE, 2025b). This is noteworthy given the present review's finding that relatively few courses explicitly reported whether research informed programme development or provided evidence of formal evaluation.

Although PINS promotes whole-school approaches consistent with neurodiversity-informed principles, local implementation varies and some reported initiatives continue to focus on individual-level interventions (DfE, 2025b). Taken together, these findings highlight the challenges of translating neurodiversity-informed principles into consistent educational practice and suggest that shifts in policy discourse do not automatically result in corresponding changes to training content or implementation. Schools also operate within contexts characterised by competing priorities, limited release time and unequal access to specialist training (Cook & Ogden, 2021; Jones, 2019; Smythe, 2025), meaning that successful implementation depends not only on the quality of training available but also on the organisational conditions that enable staff to access and implement it.

Many excluded courses focused narrowly on behaviour, communication or social skills without providing a broader understanding of autism or incorporating autistic perspectives. This aligns with Jones' (2019) observation that schools frequently purchase packaged programmes targeting specific areas of skill development without staff first receiving foundational autism training. As a result, educators may learn particular techniques or interventions without understanding the conceptual assumptions that underpin them, potentially reinforcing approaches that prioritise modifying autistic behaviour rather than understanding autistic experiences or adapting educational environments.

Questions regarding implementation are further complicated by limited transparency regarding programme development and evaluation. Although most providers described intended learning outcomes, relatively few reported formal evaluation findings. Few providers explicitly identified whether research informed programme design, while others described their courses as 'research-informed' or 'evidence-based' without specifying the evidence underpinning these claims. Although professional expertise and lived experience represent valuable sources of knowledge, greater transparency regarding the research, theory and evidence informing programme development would enable schools to make more informed commissioning decisions. The absence of robust evaluation data also makes it difficult to determine how courses impact educator knowledge, attitudes, practice or autistic pupils' experiences of school.

The findings also suggest that the sources of knowledge informing training warrant consideration. Training developed primarily from professional expertise, without meaningful autistic involvement, risks reinforcing assumptions

that professionals are positioned as the primary authorities on autistic experience. Conversely, training grounded solely in individual lived experience may not reflect the diversity of autistic perspectives. High-quality neurodiversity-affirming training is therefore likely to benefit from being informed by transparent research evidence and diverse autistic lived experience.

Reflecting these principles, most neurodiversity-affirming courses focused on developing a foundational understanding of autism as a form of human diversity. However, only one course demonstrated alignment with all five characteristics described by Hartman et al. (2023). Content relating to self-advocacy, positive autistic identity and the value of diversity and disabled lives was least frequently represented. Most courses focused on developing understanding of autism, while a smaller number emphasised authentic and collaborative relationships that foster connection, acceptance and belonging. In contrast, relatively few explicitly addressed how schools might support positive autistic identity, self-advocacy and meaningful participation. This is noteworthy because these characteristics move beyond awareness and acceptance towards empowerment, participation and belonging. Their relative absence suggests that many courses conceptualise neurodiversity-affirming practice primarily as understanding autism differently rather than actively supporting autistic young people to develop agency, identity and self-determination.

The limited emphasis on self-advocacy and identity development may also reflect broader features of contemporary educational systems. Supporting identity development and self-advocacy requires environments in which autistic young people can express preferences, exercise choice and participate meaningfully in decisions affecting them. However, high-stakes accountability systems, performance-orientated cultures, resource constraints and behaviour-focused approaches may constrain agency for both pupils and educators (Cunningham, 2024; Manyukhina, 2025). Consequently, even where training promotes neurodiversity-informed principles, translating these principles into everyday practice may remain challenging. Increasing teacher knowledge through high-quality training, informed by transparent research evidence and neurodiversity-affirming principles, is therefore only one component of the wider systemic changes required to improve autistic young people's experiences of school.

A notable finding was the limited involvement of autistic people, particularly autistic children and young people, in training design and delivery. If neurodiversity-affirming training is to be meaningful, autistic young people must be recognised as 'credible knowers' of their own experiences (Fletcher-Watson et al., 2019; Fricker, 2007). Only 13% of courses included autistic young people in the development of training materials, and just 4% involved them in delivery, typically through pre-recorded content. This is concerning given increasing recognition that autistic perspectives should play a central role in shaping autism-related research, policy and practice (Fletcher-Watson et al., 2019; Pellicano et al., 2014). The findings therefore suggest a disconnect between the emphasis placed on autistic voice within neurodiversity-affirming practice and the extent to which autistic young people are currently involved in shaping training provision.

Although involving autistic young people in training design presents practical challenges, including accessibility requirements, safeguarding considerations, competing demands on young people's time and energy within school, and the need for appropriate support structures, participatory approaches demonstrate that young people can make meaningful contributions when involvement is carefully planned and adequately resourced (Goodall, 2018; Lewis-Dagnell et al., 2023). Research using creative and participatory methodologies suggests that autistic young people can provide perspectives on their educational experiences and identify priorities that may otherwise be overlooked by adult stakeholders (East et al., 2026; Lewis et al., 2024). Including autistic young people in training development may help ensure that content reflects the realities of contemporary school experiences rather than adult interpretations of those experiences. It may also enhance the relevance and credibility of training by ensuring that content reflects current educational experiences, priorities and barriers identified by autistic young people themselves.

Implications for Practice

The findings suggest that improving the quality of autism training requires attention not only to availability but also to conceptual foundations, programme development and evaluation. This has several implications for schools, local authorities and training commissioners. First, clearer guidance is needed regarding how genuinely neurodiversity-affirming training can be identified and evaluated. Second, training providers should report more transparently how courses were developed, what research, theory or evidence informed their design, and whether autistic people were involved in development and delivery. Third, greater investment is needed in rigorous evaluations of training effectiveness. Finally, future training should move beyond awareness-raising to include issues such as identity development, self-advocacy, belonging and environmental adaptation, which were inconsistently represented across the available provision.

Future Research Directions

An important question is whether professional development should continue to focus primarily on autism-specific training or move towards broader neurodiversity-orientated approaches encompassing multiple forms of neurodivergence. While autism-specific training may facilitate detailed understanding of autistic experiences and reflects the fact that autism is one of the largest categories of identified

special educational needs within UK schools, broader neurodiversity-orientated training may offer greater efficiency and relevance in educational contexts where teachers support learners with diverse neurocognitive profiles. Given persistent constraints on time available for professional development, further research should examine whether neurodiversity-orientated approaches provide a more sustainable means of developing inclusive practice across educational settings whilst still ensuring sufficient attention to autistic learners' experiences.

Relatedly, although the present study adopted Hartman et al.'s definition, future work may need to step back and examine what autistic young people and autistic teachers, whose insider perspectives offer a nuanced understanding of school contexts, identify as the essential components of neurodiversity-affirming training within educational settings. Future research should continue to examine areas of consensus and divergence across definitions, particularly from the perspectives of autistic people, autistic educators and other neurodivergent stakeholders.

Limitations

This review has several limitations. First, the search was restricted to English-language sources. While this decision aligned with the aim of identifying training that could realistically be delivered in the United Kingdom, it also reflected the language competencies of the authors. Although this reduced the risk of misinterpretation, it may have excluded relevant materials describing courses developed for comparable educational systems but published in other languages and potentially transferable to the United Kingdom if translated. Additionally, given the rapidly evolving terminology associated with the neurodiversity movement, it is possible that relevant sources using unfamiliar or emerging terms were not captured despite the use of broad search strategies. Although extensive grey literature searching was undertaken, the predefined stopping rule meant that relevant sources appearing beyond the first 10 pages of Google search results may not have been identified.

Second, consistent with the purpose of a scoping review, the focus was on mapping the nature and extent of available training rather than appraising the quality of included sources. The review therefore incorporated a wide range of material, including research articles, research reports, unpublished theses and substantial grey literature, particularly webpages. All sources were included irrespective of type, provided they met the operationalised criteria for neurodiversity-affirming practice. While this breadth supported the aim of producing a comprehensive overview of the training landscape, it also reflects a broader limitation of scoping reviews, which prioritise breadth over depth and do not permit firm conclusions regarding quality.

A further limitation relates to the operationalisation of neurodiversity-affirming practice. Although Hartman et al.'s (2023) framework provided a clear basis for analysis, neurodiversity-affirming practice remains an evolving and contested construct. Alternative frameworks may therefore have resulted in different inclusion decisions and interpretations of the training landscape.

Conclusion

This review highlights a substantial gap between increasing attention to neurodiversity-informed approaches within research, policy and professional discourse and the training currently available to school staff to support their implementation. Although a wide range of autism-related courses is marketed to schools, only a small minority demonstrate clear alignment with neurodiversity-affirming principles, meaningfully incorporate autistic expertise, particularly that of young people and report research-informed development or formal evaluation. While many courses focused on developing understanding of autism and, in some cases, fostering relationships that promote connection and belonging, relatively few addressed positive autistic identity, self-advocacy and meaningful participation. Consequently, neurodiversity-affirming practice is often conceptualised as awareness and acceptance rather than empowerment and agency. The predominance of deficit-orientated content and limited conceptual clarity within much of the current provision create a fragmented training landscape, making it difficult for teachers and schools to identify and commission appropriate training. These challenges are compounded by wider structural and cultural conditions that constrain schools' capacity to implement inclusive practice. Future work should prioritise the co-production of definitions and frameworks for neurodiversity-affirming training and address the broader systemic changes required to ensure that such training translates into genuinely improved school experiences for autistic young people.

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The datasets generated and/or analysed during the current study are available from the corresponding author on request.

Supplemental Material

Supplemental material for this article is available online.

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