



Exploring Neurodiverse-Supportive Environments through Universal Design for Learning in an English Multi- Academy Trust

Ugochi Peculiar Nehemiah¹, Seán Bracken²

University of Worcester, UK, ugochinehemiah@gmail.com

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Abstract

This small-scale study explores how English primary and secondary schools within a single Multi-Academy Trust (MAT) in the West Midlands interpret and apply the principles of Universal Design for Learning (UDL). Adopting a qualitative, interpretivist approach, data were gathered through semi-structured interviews with two education professionals, a Director of the MAT and a Special Educational Needs Coordinator (SENCO), alongside document analysis from seven schools in the Trust. Using Reflexive Thematic Analysis, six themes emerged: sensory-friendly environments, inclusive teaching practices, professional training, leadership and whole-school ethos, emotional inclusion, and enactment challenges. Findings reveal increasing awareness of neurodiversity and UDL-aligned adaptations such as flexible learning tools, structured routines, sensory supports, and peer mentoring. However, persistent inconsistencies in leadership, training, and funding continue to impede systemic inclusion (Carrington et al., 2024; Donath et al., 2023; Liasidou, 2012). The study concludes that embedding UDL principles requires sustained professional development, collaborative leadership, and proactive design strategies to translate inclusive policy into everyday practice and create equitable, accessible learning environments for all learners.

Keywords

Neurodiversity, Universal Design for Learning (UDL), Inclusive Education, SEND, Reflexive Thematic Analysis, Neurodiverse-Supportive Environments.

Context and Rationale

Over the past few years, neurodiversity, an approach that recognises neurological differences such as autism, ADHD, and dyslexia as natural variations of the human brain rather than deficits, has become an increasingly important part of human diversity discussed in the context of inclusion in education (Doyle, 2020). In the English education system, the Equality Act (2010) and the SEND Code of Practice (2014) have encouraged schools to create learning environments that are fair and accessible to every student (Department for Education [DfE], 2015). However, a persistent gap between policy and classroom practice signals the need for practical, research-informed frameworks that facilitate enactment (Conn & Davis, 2024). Universal Design for Learning (UDL) offers such a framework, emphasising anticipatory curriculum design that considers learner diversity rather than reacting to individual needs (Meo, 2008). Grounded in neuroscience and cognitive psychology, UDL promotes multiple means of engagement, representation, and expression to ensure that all learners can participate meaningfully (Chick et al., 2025; Novak & Bracken, 2019). Bendou et al. (2025) found that schools enacting UDL reported greater levels of learner autonomy and more substantial teacher confidence in managing diversity.

UDL is especially relevant to English primary and secondary schools, where diagnoses of autism, ADHD, and dyslexia are increasing, and where an estimated one in seven children are neurodivergent (Frolli et al., 2023; DfE, 2025). Although schools are committed to inclusion, gaps in staff training, leadership accountability, and resource allocation continue to hinder sustainable progress (Carrington et al., 2024; Donath et al., 2023; Liasidou, 2012). Embedding UDL principles within school cultures can shift inclusion from an accommodation-based model to an anticipatory, design-driven approach that benefits all learners (Lopes-Murphy, 2012).

This study provides new empirical insights into UDL and neurodiversity in the English education context. While prior research has often examined individual classroom adaptations or early education, this study uniquely explores how UDL principles are interpreted and applied at a whole-school level within a Multi-Academy Trust (MAT). A MAT is a group of academies that come together to form a single trust with a board of directors answerable to the Trust's members (Male, 2022). By integrating staff perspectives with documentary evidence, it reveals how inclusive practice is shaped by leadership culture, emotional inclusion frameworks, and systemic constraints such as funding and accountability pressures (Carrington et al., 2024). The findings extend current scholarship by linking UDL's theoretical dimensions, engagement, representation, and expression to institutional leadership and policy enactment, offering a holistic understanding of what enables or limits neurodiverse-supportive environments. Within this educational and policy context, the study explores how neurodiverse-supportive environments within an English

MAT reflect UDL principles in practice, providing empirical evidence that bridges theoretical understanding with educators' lived realities and institutional policies.

Problem Statement and Research Gap

Despite progressive legislation such as the SEND Code of Practice (2014) and the Equality Act (2010), a gap remains between policy aspirations and classroom realities in England (Mairi et al., 2020). Many schools espouse inclusivity principles but struggle to enact them due to limited professional development, inadequate resources, and weak leadership accountability (Genovesi et al., 2022; Deroncele-Acosta & Ellis, 2024). Although UDL offers a proactive and research-informed framework for designing accessible curricula, its enactment in English schools remains fragmented, inconsistently interpreted, and largely unsupported by coherent leadership or policy structures, suggesting that existing statutory guidance has not translated into practical uptake (Rusconi & Squillaci, 2023).

Current research on neurodiverse-supportive environments often takes a narrow, diagnosis-specific focus, such as autism or ADHD interventions, rather than analysing how whole-school culture and physical environment contribute to inclusion (Petersson-Bloom & Holmqvist, 2022). Empirical research on UDL enactment within English MATs remains scarce. This represents a significant research gap in understanding how UDL can drive systemic, sustainable inclusion across diverse school settings. Addressing this gap, the current study explores how neurodiverse-supportive environments are practiced and enacted within an English MAT, using UDL as the analytical framework to bridge theory and practice in inclusive education.

Research Aim, Question, and Objectives

This study aims to explore how neurodiverse-supportive environments are understood and practised within a West Midlands Multi-Academy Trust, and how these environments reflect the principles of Universal Design for Learning (UDL). Rather than treating such environments as abstract or uniformly defined, the study examines how they are expressed through staff beliefs, leadership priorities, and policy language, and how they are enacted in practice across different dimensions of school life.

To provide greater practice clarity, the study distinguishes between how neurodiverse-supportive environments are understood and how they are practiced. Understanding is reflected in leadership vision, inclusive values, and institutional policy discourse, while practice is examined through leadership practices, pedagogical practices, technological practices, and environmental practices. Leadership practices include strategic priorities, monitoring, and the promotion of a whole-school ethos of inclusion. Pedagogical practices refer to adaptive teaching, differentiation, and flexible approaches to learning. Technological practices include the use of assistive technologies and digital learning tools, while

environmental practices relate to sensory adaptations, classroom design, and the use of physical spaces to support regulation and participation.

The study is guided by two research questions. The primary question asks how neurodiverse-supportive environments are understood and practised within an English Multi-Academy Trust. The secondary question asks in what ways these practices reflect the principles of Universal Design for Learning. In addressing these questions, the study does not seek to measure the extent of UDL enactment in a quantitative sense. Instead, consistent with its interpretivist design, it reflects on how features of the UDL framework are realised in practice, drawing on participant perspectives and documentary evidence to explore how inclusive principles are interpreted, negotiated, and enacted within the Trust context.

The study therefore investigates how staff interpret and apply inclusive practices across schools, identifies the strategies and features that characterise neurodiverse-supportive environments, and examines the structural and organisational factors that shape their enactment. Particular attention is given to how leadership, pedagogy, technology, and the physical environment interact to support or constrain inclusive design.

It is important to acknowledge from the outset that the study is based on a small sample of two participants, complemented by document analysis across seven schools. While this allows for rich and in-depth insight into leadership and SENCO perspectives, it limits the breadth of representation across the Trust. As such, the study offers an interpretive, context-specific understanding of practice rather than a comprehensive or generalisable account.

Literature Review

The literature review critically analyses available research on inclusive education and neurodiversity to examine how the Universal Design for Learning (UDL) can serve as a model for creating neurodiversity-equalising learning environments in schools. It explores the theoretical foundations, empirical evidence, and ongoing challenges related to enacting UDL principles in English Primary and Secondary educational settings. The literature reviewed in this study was sourced from reputable international academic databases, including Scopus, ERIC, ScienceDirect, and Google Scholar, ensuring access to peer-reviewed, high-quality research relevant to inclusive education and Universal Design for Learning (UDL).

Neurodiversity and Inclusive Education in England

The concept of neurodiversity has increasingly been incorporated into the inclusionary paradigm, reframing conditions such as autism, ADHD, dyslexia, and dyspraxia as natural variations in human cognition rather than deficits (Armstrong, 2012; Sewell, 2022). This shift reflects a move away from deficit-oriented models towards a strengths-based

understanding of learning diversity. In England, legislative frameworks such as the Equality Act (2010) and the SEND Code of Practice (2014) provide a foundation for inclusive education by requiring schools to ensure equitable access through reasonable adjustments and inclusive pedagogy (DfE, 2015). However, despite this policy infrastructure, a persistent gap remains between legislative intent and everyday classroom practice (Ainscow, 2020; Liasidou, 2012).

Empirical evidence indicates that schools within Multi-Academy Trusts (MATs) vary significantly in their capacity to support neurodiverse learners, with differences linked to leadership priorities, staff expertise, and resource allocation (Chowdhury et al., 2024; Humphrey & Symes, 2013). While some schools incorporate sensory-friendly design, differentiated instruction, and assistive technologies, these approaches are often inconsistently embedded and reliant on individual teacher initiative rather than coordinated, whole-school strategies (Iliska & Gudoniene, 2025). As a result, inclusion frequently operates as a reactive process, highlighting the need for more systematic and anticipatory frameworks such as Universal Design for Learning (UDL).

Within this context, neurodiverse-supportive environments can be understood as multi-dimensional systems that extend beyond discrete interventions to encompass whole-school culture, leadership direction, pedagogical practice, and physical design (Ainscow, 2020; Carrington et al., 2024). Such environments are not defined solely by the presence of support strategies, but by the extent to which inclusive principles are embedded across institutional structures and everyday practices (Liasidou, 2012; Conn & Davis, 2024). Research suggests that effective environments integrate flexible pedagogy, sensory-aware spaces, assistive technologies, and relational approaches that prioritise belonging and emotional safety (Humphrey & Symes, 2013; Petersson-Bloom & Holmqvist, 2022; Allen et al., 2022). However, how these elements are enacted differ across contexts, reflecting variations in organisational capacity, leadership commitment, and strategic focus (Chowdhury et al., 2024; Donath et al., 2023). Consequently, understanding neurodiverse-supportive environments requires examining how inclusive practices are expressed in both policy discourse and lived educational experiences, recognising that inclusion operates simultaneously at structural, pedagogical, and relational levels (Ahlers et al., 2023; Martin-Denham, 2022).

Universal Design for Learning (UDL): Theoretical and Practical Foundations

Universal Design for Learning (UDL), developed by an interdisciplinary team at the Harvard Graduate School of Education, offers a proactive framework for creating flexible learning environments that anticipate learner variability rather than reacting to it (Meyer et al., 2014). The framework is structured around three core principles, multiple means of engagement, representation, and action and expression, which guide educators to design

learning experiences that accommodate diverse interests, cognitive profiles, and modes of communication (Bracken, 2024).

UDL is an approach to learning, teaching, and assessment design that is proactive in addressing the varied identities, competencies, learning strengths, and needs of every learner in our learning environment (Flood & Banks, 2021, pp. 2). By identifying this variability, UDL redirects inclusion from a remedial adjustment to an embedded design principle benefiting diverse learners. Recent primary studies in different contexts further demonstrate UDL's potential to increase access and participation: Tígere et al. (2025) used a mixed-methods case study in a Latvian inclusive preschool and showed that UDL-aligned strategies, such as visual schedules and multi-sensory activities, improved communication, engagement, and social interaction for children with autism; Gilleran Stephens et al. (2025) redesigned an Irish primary-school environmental science festival using UDL and reported higher pupil engagement and more inclusive teaching practices; and Schuck and Fung (2024) evaluated a UDL- and design-thinking-informed virtual summer camp for U.S. high-school students, finding significant gains in autism/ADHD knowledge and more positive attitudes towards neurodiversity. Rao et al. (2014) and Bracken and Novak (2019) show that classrooms designed according to UDL principles are associated with greater engagement and academic performance among neurodivergent and neurotypical students.

While Universal Design for Learning (UDL) is widely valued as an inclusive pedagogical framework, recent scholarship has raised important theoretical and empirical concerns. Anastasiou et al. (2025) argue that UDL is more appropriately understood as a practice framework than a scientific theory, and that its learning network model remains insufficiently validated. They further suggest that claims of universality, multiplicity, and digital flexibility require more systematic scrutiny, particularly where they conflict with cognitive load theory or overlook the continued need for specially designed instruction. Similarly, Boysen (2024) questions the strength of the empirical evidence supporting CAST's guidelines. Together, these critiques do not invalidate UDL, but they do indicate that its practice claims and practical application should be approached with greater critical caution.

However, barriers persist in operationalising UDL. Scholars note that inadequate teacher preparation, rigid curricula, and limited institutional support often result in superficial adoption rather than transformative change (Jardinez & Natividad, 2024). For UDL to be effective, schools must integrate its principles into broader professional development systems, leadership accountability, and inclusive policy frameworks (Priyadharsini & Mary, 2024).

Empirical Evidence and Research Gaps

Recent empirical work in England and other high-income settings, however, indicates positive findings about how schools may enact UDL-influenced approaches. For example, Barrett et al. (2013) identify that features of classroom design, including natural light, reduced noise and visual order, are integral to neurodivergent learners' participation and attainment. Dockrell et al. (2015) also provide a valuable case study of how a classroom environment and sensory modifications can promote inclusion for students with speech, language and communication needs. Lastly, Tsou et al. (2024) report that peer mentoring and sensory modification are particularly helpful strategies for facilitating the social inclusion of autistic students.

Despite these promising findings, many gaps remain. First, most research focuses on early education, leaving secondary-level enactment under-researched. In addition, few studies are informed by a systematic investigation of how the UDL principles interplay with institutional policies, leadership cultures, and staff development practices within the MATs. This gap also extends to the reflexive, practitioner-informed studies that capture educators' lived experiences in embedding neurodiverse-supportive strategies (Ahlers et al., 2023; Martin-Denham, 2022).

Methodology

Participants and Sampling

This study involved a Multi-Academy Trust in the English West Midlands, comprising seven schools: four primaries and three secondaries. Participants included two key professionals: a Director of the MAT and a Special Educational Needs Coordinator from one of its schools. While the small sample size of two participants limits the breadth of perspectives, it allowed for depth of insight into leadership and practice within a single school trust context. In qualitative research, rich contextual data rather than numerical representation establishes rigour (Tracy, 2020). The participants were selected through purposive sampling; hence, their suitability became evident, as they had extensive experience in enacting and managing inclusive neurodiverse support practices (Campbell et al., 2020).

Besides semi-structured interviews, the study also encompassed the document analysis of school- and trust-level documents, such as SEND policies, accessibility statements, inclusion frameworks, and improvement plans (Bowen, 2009). This gave a multi-layered interpretation of institutional policies and practices regarding neurodiversity. These data sources enabled triangulation, thereby increasing the credibility and richness of the data (Carter et al., 2023).

To ensure trustworthiness and rigour, the study drew on Lincoln and Guba's (1985) criteria. Transferability was enhanced by providing a thick description of the MAT context and triangulating insights from staff interviews with documentary evidence, enabling readers to

judge the applicability of the findings beyond the immediate setting. The transferability of these findings depends on the presence of comparable contextual conditions, including supportive leadership, staff capacity for inclusive practice, access to appropriate digital and sensory resources, and organisational structures that enable collaboration between SEND and classroom staff. In settings where these conditions are absent, enacting UDL-aligned practices may be more limited or take different forms. Dependability was supported through transparent documentation of procedures for data collection, coding, and theme development, ensuring that the analytic process remained consistent and traceable (Lim, 2025). Confirmability was strengthened through reflexive journaling, triangulation of data sources, and the maintenance of audit trails, which helped to demonstrate that interpretations were grounded in participant accounts rather than researcher bias.

The inclusion of only two participants constitutes an important limitation of the study. Although the interviews provided rich insight into leadership and SENCO perspectives, they do not capture the views of classroom teachers, students, parents, or other staff across the Trust. As such, the study captures leadership and SENCO perspectives on inclusion rather than a fully representative account across all seven schools within the Trust. It therefore offers analytical and contextual insight rather than statistical generalisability, and its relevance to other settings depends on the extent to which similar structural and organisational conditions are present. The study is thus best understood as an exploration of leadership and SENCO perspectives on neurodiverse-supportive environments within the MAT, rather than a comprehensive account of practice across all seven schools.

Data Collection Methods

Two semi-structured interviews were conducted via Microsoft Teams, each lasting approximately 40 minutes. This format allowed participants to elaborate flexibly on issues relating to teaching practices, leadership commitment, and environmental adaptations, consistent with Kallio et al. (2016). The interviews were audio-recorded with consent, transcribed verbatim, and anonymised.

In parallel, document analysis was conducted using school- and trust-level documents available through public websites (see Table 1). Following Bowen's (2009) approach, documents were selected based on their relevance to neurodiversity, inclusion, accessibility, and SEND policy. The dataset comprised documents drawn from seven schools, including SEND policies, accessibility plans, inclusion frameworks, behaviour policies, and school improvement plans. These documents were examined for references to UDL-aligned values such as flexibility, accessibility, learner engagement, and multi-sensory support (Orndorf et al., 2022). Manual coding in Microsoft Word and Excel was employed to facilitate engagement and transparency (Ose, 2016). Documentary evidence was therefore used to

contextualise interview findings and provide institutional insight into how neurodiverse-supportive environments were formally articulated across the MAT.

Table 1

Overview of Documents Reviewed in the MAT

School/Setting	Main document types reviewed	Main focus of review
School 1	SEND policy, accessibility statement, behaviour policy	Inclusion structures, pupil support, and leadership expectations
School 2	SEND policy, equality/objectives, accessibility information	Reasonable adjustments, access, inclusive provision
School 3	SEND policy, behaviour policy, inclusion information	Pastoral support, inclusive language, and behavioural expectations
School 4	SEND policy, improvement planning, and inclusion information	Leadership coordination, monitoring, and curriculum support
School 5	SEND policy, accessibility plan, behaviour/inclusion documents	Emotional regulation, retreat spaces, whole-school inclusion
School 6	SEND policy, transition/support information, behaviour/inclusion documents	Peer support, transitions, relational inclusion
School 7	SEND policy, accessibility plan/statement, inclusion framework	Calm base provision, environmental adaptation, staff support

Document analysis and interviews were conducted in parallel rather than sequentially, meaning that school-specific policy documents did not directly inform interview questions. While this supported an independent exploration of policy and practice, it may have limited the depth of alignment between documentary evidence and participant responses. Future

research could address this design limitation, as well as the small sample size, by including a broader range of participants across school roles and adopting a sequential design in which document analysis precedes interviews.

To enhance transparency and credibility, the study provides an overview of all data sources used in the analysis, including the two interview participants and the documentary evidence drawn from seven schools within the Multi-Academy Trust. Table 2 clarifies the role of each source and how it contributed to addressing the research objectives.

Table 2

Summary of Participants and Data Sources

Data Source	Type	Description / Role	Relevance to Study Objectives
Participant 1	Director of the Multi-Academy Trust (MAT)	Oversees inclusion, SEND coordination, and professional development across seven schools (four primary and three secondary). Provides strategic oversight on inclusive leadership, funding priorities, and policy enactment.	Offered a Trust-wide leadership perspective, highlighting systemic enablers and constraints in enacting Universal Design for Learning (UDL) principles across schools.
Participant 2	Special Educational Needs Coordinator (SENCO)	Leads the design and delivery of SEND and neurodiversity-related initiatives within a secondary school. Coordinates teacher training, classroom adaptations, and pupil support strategies.	Contributed school-level insights on inclusive pedagogy, daily teaching challenges, and practical interpretation of MAT inclusion frameworks.

Document Analysis (7 Schools within the MAT)	School and Trust-Level Policies and Reports	Publicly available documents include SEND policies, accessibility statements, behaviour policies, inclusion frameworks, equality objectives, and improvement plans across the seven schools.	Provided triangulated evidence of how inclusion and neurodiversity are practiced and enacted institutionally. Enabled comparison between policy rhetoric and classroom practice, supporting the thematic analysis.
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Data Analysis and Reflexive Thematic Approach

Data were analysed using Reflexive Thematic Analysis (RTA), following Braun and Clarke's (2021, 2024) six-stage model: familiarisation, coding, theme development, review, definition, and reporting. The overall analysis was primarily inductive, with minimal imposition of pre-existing categories, allowing themes to emerge from the data. However, the UDL lens informed the interpretation, such that the findings were considered in relation to the principles of engagement, representation, and action and expression, as discussed by Orndorf et al. (2022).

Initial coding was undertaken manually using Microsoft Word and Excel to identify meaningful statements and recurring ideas (Ose, 2016). Codes were then grouped into broader patterns, including sensory-friendly environments, inclusive teaching practices, professional development, and leadership commitment. These patterns were subsequently refined into six overarching themes: sensory-friendly environments, inclusive teaching and learning, professional training, leadership commitment, emotional inclusion, and enactment challenges. Reflexive journaling was incorporated throughout the analytic process to track interpretive decisions and enhance transparency, consistent with guidance emphasising researcher self-awareness in meaning-making (Olmos-Vega et al., 2023).

Rather than formal triangulation in a strict comparative sense, the study drew on multiple data sources to enhance contextual richness and interpretive depth. Interview data and documentary evidence were analysed in parallel and then brought together during theme development to identify areas of convergence and divergence. For example, themes such as leadership commitment and inclusive teaching practices were supported by both participant accounts and policy documentation, while inconsistencies in training and resource allocation were illuminated through contrasts between reported practice and institutional statements. This approach enabled a layered understanding of inclusion, though the study did not employ a fully systematic triangulation matrix, an area for future methodological development.

Reflexivity and Researcher Positionality

As shared by Musgrave (2025: 183)," engaging with reflexivity is not only a vital ingredient of educational research but also has implications for improving practice, as well as being a tool for personal development". The concepts of reflexivity and author positioning, especially in values-laden, inclusion-oriented research, ought to be key considerations; thus, reflexivity is central to the credibility and transparency of this study. The lead author is a young, emerging Nigerian female researcher who currently works as a teaching assistant at an English secondary school. The diverse cultural experiences she takes to the research and practitioner spaces are consistently negotiated and, reflecting Yip's (2024) experiences, position her simultaneously as both an insider and an outsider. Nonetheless, it is important to recognise that despite the potential 'othering' of that outsider status, it also has agentic qualities. The lead author sees herself as learning from, but also acting in and upon, the researched and teaching spaces. In this context, she adopts the singular personal pronoun throughout the research, and accordingly, her positioning and reflections are further explored below.

I am an insider because my professional background as a former student of psychology, education, guidance and counselling enables me to gain insights into school practices, pedagogical language, and staff perspectives. Simultaneously, I remain an outsider due to my cultural background and educational experiences outside the UK, which provide analytical distance and curiosity when examining English inclusion practices. My academic journey, from an initial degree that inspired further study to a Master of Arts in SEND, has strengthened my commitment to Universal Design for Learning (UDL) and inclusive educational practice. It has also shaped my long-term goal of establishing an inclusive school in Nigeria that fully supports SEND learners.

The co-author enriched the research experience by bringing to bear a contrasting positionality grounded in over three decades of transcultural teaching, leadership, and research in inclusive education. As an experienced practitioner and researcher, and following strategies espoused by Wyatt and Chapman de Sousa (2017), he acted as a coach and cultural broker for the lead author. Whilst this role was facilitative at all stages of the research process, it is necessarily elided in the research to give voice and prominence to the primary researcher.

Importantly, this positionality directly influenced data interpretation. There was a tendency to privilege relational and inclusive understandings of neurodiverse-supportive environments, with particular emphasis placed on themes of belonging, emotional inclusion, and adaptive pedagogy. These interpretive tendencies reflect the researcher's prior experiences and commitments to inclusive practice. To address this, reflexive journaling and ongoing dialogue between the authors were used throughout the analysis (Braun & Clarke,

2024), ensuring that themes remained grounded in participants' accounts and documentary evidence rather than being shaped solely by prior assumptions.

Ethical Considerations

The research was carried out in accordance with the University of Worcester's and BERA's (2024) ethical guidelines. Ethical approval for the study was granted by the University of Worcester Research Ethics Panel under reference number 2538091781 prior to data collection. An information sheet and consent form regarding the candidate, explaining the purposes of the study, the procedures, and a person's right to withdraw at any time during or after the research process. Guaranteed anonymity and confidentiality were preserved by using pseudonyms for participants and schools, as explained by Saunders et al. (2015). All digital data was securely stored on password-protected devices and deleted after transcription.

The research also followed the UK General Data Protection Regulation GDPR, 2018, to ensure that all data was processed lawfully and fairly. Since it involved only professional participants and the data collection posed no harm, the study was classified as low risk. Ethical reflexivity, through memo writing and transparent reporting, was maintained throughout to uphold participant dignity and research credibility.

Findings and Discussion

This integrated Findings and Discussion section combines the presentation and interpretation of results due to word count constraints, allowing for a more concise and cohesive analysis of how neurodiverse-supportive environments are enacted across the Multi-Academy Trust. Using UDL as the analytical lens, six interconnected themes emerged, illustrating both progress and systemic challenges in embedding inclusive practice. The six themes draw on both interview and documentary evidence, although the contribution of each source varies across themes. Themes relating to leadership, emotional inclusion, and enactment challenges were supported by both participant accounts and policy documentation, while themes such as inclusive teaching practices and professional training were more strongly illuminated through interview data, with documents providing contextual support. This integrated structure is retained to show how lived perspectives and institutional discourse interact in shaping neurodiverse-supportive environments across the MAT.

It is important, however, to distinguish between the depth of insight achieved in enactment and the more limited exploration of practice. While enacting is examined extensively through the six emergent themes, practice is primarily inferred from leadership perspectives and institutional documents rather than systematically compared across all schools. Participant 1 framed neurodiverse-supportive environments as a values-driven, relational approach

grounded in inclusion as a whole-school ethos, while Participant 2's contributions reflected a more practice-oriented understanding centred on classroom adaptations and support structures. Document analysis further suggested that practices were embedded within policy language, though these were not always explicitly defined or consistently articulated across schools. As such, the findings reflect how inclusion is understood within leadership and SENCO perspectives rather than providing a fully comprehensive trust-wide practice account. To demonstrate how the study's findings relate to the Universal Design for Learning framework, Table 3 maps the three UDL principles onto the emergent themes and supporting evidence from the analysis.

Table 3

Mapping of Universal Design for Learning (UDL) Principles to Emergent Themes

UDL Principle	Description	Corresponding Study Themes	Illustrative Evidence (from Findings)
Multiple Means of Engagement	Motivating learners through relevance, autonomy, and belonging.	- Emotional Inclusion and Peer Relationships - Whole-School Commitment and Leadership	<i>"It is about feeling like they belong and being part of something."</i> <i>Peer mentoring and inclusion circles fostered a sense of belonging.</i>
Multiple Means of Representation	Presenting information in various formats to accommodate diverse learning needs.	- Inclusive Teaching and Learning Practices - Professional Training and Staff Capacity	<i>The use of Google Slides, planning sheets, and adaptive materials enabled flexible access to content.</i>
Multiple Means of Action & Expression	Providing alternative ways for students to demonstrate understanding and participate.	- Sensory-Friendly School Environments - Enactment Challenges and Policy Gaps	<i>Chromebooks, sensory rooms, and adaptive seating supported learner autonomy despite resource constraints.</i>

Sensory-Friendly School Environments

Across the MAT, most schools enact sensory-supportive features such as quiet rooms, calm bases, sensory circuits, adjustable lighting, overlays, and noise-reducing headphones. Participant 2 described how: *“Students with ADHD... might have supervised walking breaks... Use of a Chromebook for more autistic students, if they have difficulties with fine and gross motor skills, they can type in a more ordinary way of working things.”*

Documentary evidence further showed that school policies and accessibility documents referenced calm spaces and flexible seating for emotional regulation.

Taken together, these findings align with Barrett et al. (2013), who emphasise the importance of environmental design, lighting, noise control, and physical layout in supporting learner participation. Within a UDL framework, such adaptations represent “multiple means of engagement,” anticipating sensory variability rather than reacting to distress. However, enacting across the MAT remained inconsistent, reflecting what McKenzie et al. (2023) describe as inclusion that depends heavily on local leadership and resources. This unevenness suggests that sensory-friendly design must be systemically embedded rather than school-dependent.

Inclusive Teaching and Learning Practices

Interview data indicated that flexible pedagogy was understood not simply as differentiation, but as responsive redesign in relation to learner variability. Teachers across schools demonstrated growing use of flexible instructional methods. Participant 1 emphasised: *“It is really important to me if I am really honest with you. I think everybody learns differently, and I think it does not matter whether you are neurodiverse or neurotypical... It is not about worksheets; it is about being able to say: Oh, so we cannot access it like that. What can I do instead?”* Teachers used tools such as planning sheets, Google Slides for self-paced learning, and adaptive seating arrangements. These practices reflect UDL’s principle of multiple means of representation, enabling varied pathways to content. This suggests that inclusive teaching within the MAT was increasingly framed as adaptive and anticipatory rather than reactive.

Inclusive strategies appeared strongest in schools with established digital infrastructures, echoing Fernández-Batanero et al. (2022), who argue that digital accessibility broadens participation irrespective of diagnosis. However, the findings also highlight variance in teacher confidence and digital fluency. As Lieberman et al. (2024) argue, UDL becomes transformative only when understood as a pedagogical philosophy rather than a checklist of accommodations. Across the MAT, this philosophical shift was emerging but not yet fully institutionalised.

Professional Training and Staff Capacity

A significant barrier identified was uneven staff training. Participant 1 reported receiving mainly *“Over my period of time as a teacher, I have had quite a sort of standardised basic training... in-depth, high-quality training is something that I feel the profession is missing.”*

Lacking specialist depth, whereas Participant 2 detailed greater support in their Trust: *“We attend network meetings... and received valuable training from recognised organisations in areas such as ADHD, neurodiversity, and inclusive practice.”* Documentary evidence also reflected this inconsistency, revealing variation in staff development structures across schools. This contrast between participant accounts suggests that staff capacity depended heavily on localised access to specialist professional learning.

Literature strongly supports the need for sustained, specialist-focused professional learning. Ainscow (2020) and Arnaiz-Sánchez et al. (2023) argue that surface-level training perpetuates compliance cultures rather than reflective, adaptive practice. The MAT's inconsistencies reflect broader national patterns in which teacher preparedness for inclusion depends on institutional commitment rather than national frameworks (Donath et al., 2023; Sims et al., 2025). Collaboration models, such as School 7's joint planning between SENCOs and teachers, demonstrate best practice consistent with Wenger's (2000) “communities of practice.” However, staffing shortages and workload pressures limited teachers' ability to engage deeply in ongoing continuous professional development (CPD).

Whole-School Commitment and Leadership

Both interview and documentary evidence suggested that leadership shaped whether inclusion was embedded culturally or treated as a procedural requirement. Leadership emerged as the strongest determinant of inclusive culture. Documents emphasised shared responsibility for inclusion, while Participant 1 stressed that *“Inclusion should not be a policy; it should be who we are as a school.”* Schools with leaders who embedded SEND into monitoring systems, curriculum planning, and performance expectations showed more coherent UDL application. For instance, School 4 reported structured communication between SEN and subject leads, and School 1 held termly inclusion meetings.

This finding aligns with Harrison and Mosen (2025), who argue that inclusive schools normalise diversity through leadership-driven cultural transformation. However, not all schools demonstrated such coherence. As Abson et al. (2024) note, inclusion becomes aspirational rather than actionable when leadership is fragmented or reactive. The findings show that, even within a single MAT, leadership-driven variability significantly shaped UDL enactment.

Emotional Inclusion and Peer Relationships

Emotional inclusion was widely prioritised. Participant 1 explained that inclusion begins with relationships, stating, *"It is about meeting pastoral needs... having positive relationships with people, and at a curriculum level, adaptive practice."* Schools enacted well-being rooms, peer mentoring, inclusion circles, and pastoral care rooted in respectful communication. School 5 created retreat spaces for emotional regulation; School 6 used structured buddy systems; School 3 provided whole-school training on inclusive language. Documentary evidence, therefore, complemented the interview data by showing that belonging was supported not only relationally but also through formal pastoral structures.

Taken together, these practices reflect UDL's affective dimension of engagement, recognising belonging as foundational to learning (Allen et al., 2022). Research supports this emphasis: Humphrey and Symes (2013) found that peer support and belonging improve well-being and reduce behavioural difficulties among autistic students. However, emotional inclusion initiatives were not always formalised or sustainably resourced, reflecting disparities in leadership support and staffing capacity.

Enactment Challenges and Policy Gaps

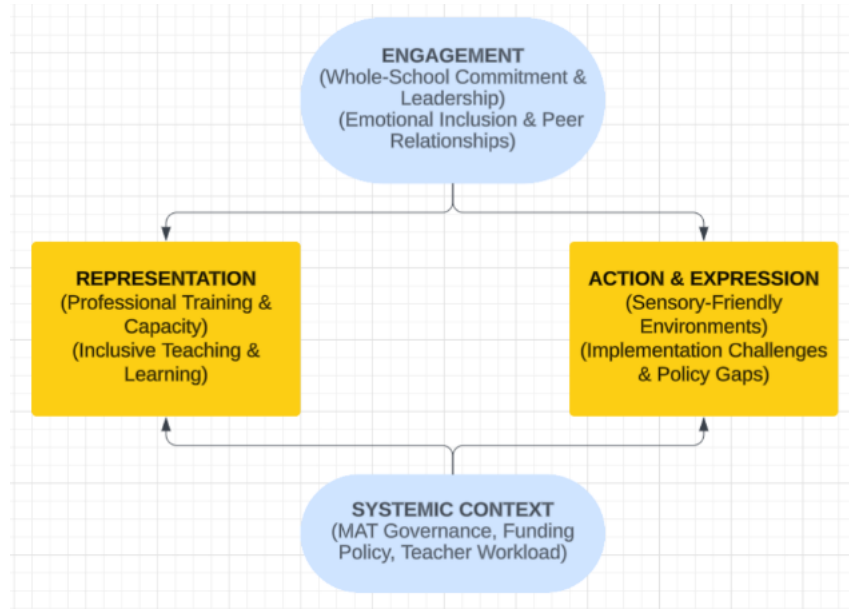
Despite a shared ethos of inclusion, systemic barriers, particularly funding shortages, MAT governance pressures, and workload intensification, undermined sustainability. Participant 1 noted, *"We have not got the money... it impacts timetable, support, and many more sorts,"* while Participant 2 referenced a 'national crisis' in SEND funding.

This pattern supports Liasidou's (2012) critique that austerity-driven policies fragment inclusive provision and widen inequalities. Ahlers et al. (2023) argue that England's accountability pressures reinforce an enactment gap between policy rhetoric and practice. By contrast with the inclusive aspirations described earlier, these constraints revealed how structural conditions continued to limit consistent enactment across the Trust. Within the MAT, devolved governance led to resource disparities between schools, making inclusion dependent on local capacity rather than on systemic provision.

Figure 1 provides a visual synthesis of how the three UDL principles, engagement, representation, and action and expression, interact across the six themes identified in this study. The model highlights that these dimensions do not operate in isolation, but are shaped by systemic influences such as governance, funding, and teacher workload. In this sense, the figure reinforces the study's central argument that neurodiverse-supportive practice depends not only on classroom adaptation, but also on the broader organisational conditions that enable or constrain inclusive design.

Figure 1

Interactions of Engagement, Representation, and Action & Expression Under Systemic Influences



To further illustrate how the six emergent themes align with the core principles of Universal Design for Learning (UDL), Table 4 presents a synthesis of each theme, its corresponding UDL principle, and supporting evidence from interviews and school documents.

Table 4

Mapping of Study Themes to UDL Principles with Supporting Evidence

Theme	UDL Principle	Supporting Evidence (Participant Quotes & Documents)
Sensory-Friendly School Environments	Action & Expression	<i>"Students with ADHD... might have supervised walking breaks... use of a Chromebook for more autistic students."</i> (Participant 2) <i>"Calm base... low-stimulation, safe retreat for pupils requiring emotional regulation."</i> (School 7)
Inclusive Teaching and	Representation	<i>"Everybody learns differently... it is not about worksheets; it is about being able to say: 'What can I do instead?'"</i> (Participant 1)

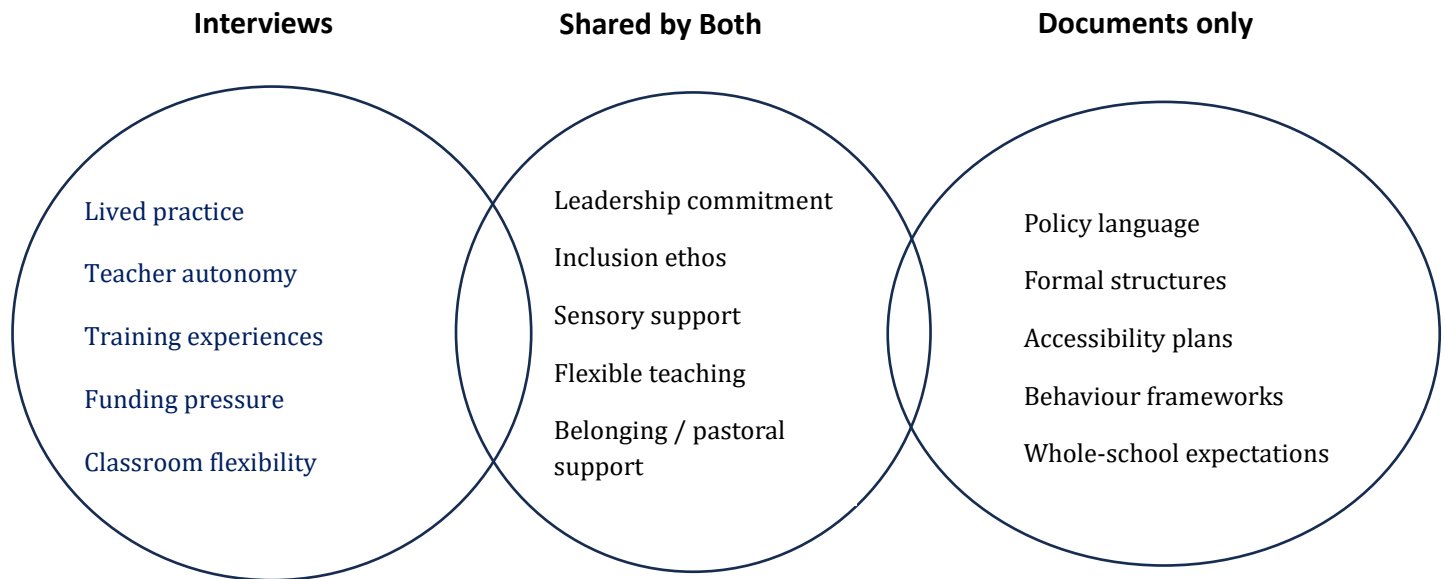
Learning Practices		<i>"Google Slides can be shared directly with a student so they can go at their own pace."</i> (Participant 2)
Professional Training and Staff Capacity	Representation / Engagement	<i>"Over my period of time as a teacher, I have had quite a sort of standardised basic training... high-quality training is something that I feel the profession is missing."</i> (Participant 1) <i>"We attend network meetings... and received valuable training from recognised organisations in ADHD and inclusive practice."</i> (Participant 2)
Whole-School Commitment and Leadership	Engagement	<i>"It is about feeling like they belong and engaging with it and being part of something."</i> (Participant 1) <i>"SEND was built into the whole-school monitoring... not just the role of the SENCO, but actually everybody is a part of it."</i> (Participant 2) (School 5: "Whole-school approaches promote and support all learners.")
Emotional Inclusion and Peer Relationships	Engagement / Action & Expression	<i>"It is about having positive relationships with people... and adaptive practice."</i> (Participant 1) <i>"Trained staff provide Autism and ADHD one-to-one mentoring sessions."</i> (Participant 2) (School 6: "Paired peer support during transitions.")
enactment Challenges and Policy Gaps	Systemic Enabler (Cross-cutting)	<i>"It all comes down to training and the enabling features that make training happen... we have not got the money."</i> (Participant 1) <i>"Funding for all students nationally does need to improve... there is a bit of a crisis nationally."</i> (Participant 2) (School 5: "Provision dependent on available funding and staff capacity.")

Figure 2 below presents a simple comparative overview of the interview and documentary evidence used in this study. It highlights areas that were emphasised primarily in participant

accounts, areas articulated mainly through school documents, and areas of overlap across both sources. This visual comparison strengthens the integrated analysis by showing that neurodiverse-supportive practice within the MAT was shaped both by lived professional experience and by formal institutional documentation.

Figure 2

Areas of Convergence and Divergence Between Interview and Document Evidence



Conclusion

This paper explored how neurodiverse-supportive environments in English primary and secondary schools within one Multi-Academy Trust were practiced and enacted, and the extent to which they reflected principles underpinning Universal Design for Learning. Revisited in direct relation to the research question, the findings indicate that neurodiverse-supportive environments were practiced primarily through leadership and SENCO perspectives as inclusive, relational, and values-driven spaces centered on belonging, adaptability, and whole-school responsibility. In terms of enactment, the study identified evidence of sensory-friendly classrooms, flexible teaching practices, peer mentoring, and emotionally supportive structures, although these were unevenly embedded across the Trust. With respect to UDL alignment, the findings demonstrate partial but meaningful correspondence with the principles of engagement, representation, and action and expression, while also showing that systemic barriers, including insufficient funding, staffing pressures, and fragmented leadership, constrained their consistent enactment.

Taken together, the study suggests that inclusion must move beyond compliance and become embedded within the culture, structures, and everyday practices of school life. This requires strong leadership, sustained professional development, and cross-departmental collaboration so that neurodiverse-supportive practice is not dependent on isolated initiative. Neurodiverse inclusion, therefore, entails a shift from reactive support to proactive design, in which UDL principles inform pedagogy, policy, and school ethos. The study contributes valuable insights for policymakers, educators, and school leaders seeking to strengthen equitable, compassionate, and accessible learning environments.

This study is subject to important limitations, particularly the small sample size of two participants. While the findings provide valuable insight into leadership and SENCO perspectives, they reflect the views of two professional participants, supported by documentary evidence, and therefore do not represent the full range of perspectives across all seven schools in the Trust. The absence of perspectives from classroom teachers, students, and parents further constrains the breadth of interpretation. As such, the conclusions should be understood as a context-specific exploration rather than a comprehensive trust-wide representation. Their transferability depends on comparable conditions, including leadership commitment to inclusion, staff expertise, access to digital and sensory resources, and collaborative organisational structures.

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