

AI Cover Sheet

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Cover sheet

Poster submitted onto Turnitin on the 12th of May 2026

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Script for ALN work

(Start recording)

Today we are focusing on Additional Learning Needs. The Additional Learning Needs and Education Tribunal (Wales) Act 2018 states that a child has additional learning needs if they have difficulty or disability, which requires additional learning provision.

My focus today is on sensory processing differences (SPD) and the impact they can have on children in early years settings. Through both research and my own experience supporting children with SPD, I'll be exploring what sensory processing differences are, how they are identified, the impact of barriers children may experience, and one support strategy.

We also have other experienced speakers with us this evening who will be covering different areas of ALN. I'll let them introduce themselves and talk through their focus areas.

Helen..

Mary...

Racheal

Just a quick note before we start -screen sharing should be enabled
Issues /technical difficulties
questions and answers at the end of the session.

So, I'll start with sensory processing, I'll just share my screen... can everyone see it...

Introduction

Sensory processing describes how the brain receives, organises and responds to information from the environment, including sound, movement, touch, taste and visual input. When this process functions differently, it can result in sensory processing differences (Dean et al., 2022; Lane et al., 2019). Some children may be over-responsive to sensory input, where certain sounds, textures or environments become overwhelming and they try to avoid them. Others may be under-responsive and actively seek sensory experiences to help them regulate (Ben-Sasson et al., 2019).

Sensory processing differences can be considered an additional learning need, when they impact a child's ability to access learning or engage in everyday activities, which may require additional learning provision (Additional Learning Needs and Education Tribunal (Wales) Act, 2018). What's important to recognise is that these differences are neurological rather than simply behavioural (Lane et al., 2019). This is significant because behaviours may often be misunderstood within settings. (Mills et al., 2025) found that teachers rate sensory processing through observed behaviours in the classroom, showing that instead of recognising signs of sensory overload or dysregulation, behaviour may be viewed as disruptive or challenging. As a result, children may sometimes be disciplined for behaviours that may be linked to unmet sensory needs.

However, how a child copes often depends on how their sensory needs fit the environment, so the same child may cope in one setting and struggle in another (Bailliard et al., 2022). This suggests that the way a child responds to the environment is linked to how they process sensory information. Research also shows that sensory processing differences are very common within neurodevelopmental conditions, particularly autism. Approximately 80% of autistic children experience sensory processing differences (Patil and Kaple, 2023; Ben-Sasson et al., 2019). However, it is important to remember that sensory differences are not exclusive to autism and may be linked to other condition such as ADHD and OCD (Cleveland Clinic, 2025)

Identifying and Diagnosis

Sensory processing differences are usually identified through observation, discussions with parents and professionals, and sensory assessment tools (Jorquera-Cabrera et al., 2017). One commonly used assessment is the Sensory Profile 2 as shown in figure 3, developed by Winnie Dunn. This is often completed by carers and interpreted alongside professional observations, by occupational therapists (Dean et al., 2022; Passarello et al., 2022; Pearson, 2026). The Sensory Profile 2 helps identify patterns in how children respond to sensory input across different environments, including home, school and the community (Pearson, 2026). This may be valuable because children may respond differently depending on the environment they are in and it supports a multiagency approach to gain a fuller understanding of the child (Antalek et al., 2025).

However, these assessments rely heavily on adult interpretation, meaning results may vary depending on the experiences and perceptions of the person completing them (Gunderson et al., 2023). This raises concerns around consistency and reliability. This is why (Jorquera-Cabrera et al., 2017) argues it is best done alongside other assessments such as OT observations.

Another challenge is that sensory processing differences are not recognised as a standalone diagnosis (Van Den Boogert et al., 2022). Instead, they are often discussed alongside wider conditions such as autism or (Passarello et al., 2022). However, there are ongoing debates around whether SPD should be recognised as a separate diagnosis (Raevsky, Nabalta and Atilas, 2025). In practice, this can mean that children with significant sensory difficulties may struggle to access support unless they meet the criteria for another diagnosis. This raises concerns around equality and inclusion, as support may become dependent on labels rather than actual need.

This is where the Additional Learning Needs and Education Tribunal (Wales) Act 2018 becomes especially important. The legislation focuses on identifying barriers to

learning and providing support based on need, rather than requiring a diagnosis before intervention can take place.

This reflects a more inclusive approach because it recognises that children may require additional support even without a medical label. However, although legislation promotes inclusive practice, implementation may still differ between settings depending on factors such as practitioner training and understanding (Freeman-Green, Williamson and Cornelius, 2023) So, while policy supports inclusion in theory, practice may not always reflect this consistently.

Impact of Barriers

Research by Persson-Waye et al. (2019) found that excessive sensory stimuli such as noise within settings can negatively impact behaviour and emotional wellbeing . Some children may become overwhelmed, distressed or withdrawn when exposed to high levels of sensory input. Children with sensory processing differences may also find it difficult to filter out irrelevant sensory information (Patil and Kaple, 2023), meaning background sounds, movement or visual clutter can become distracting or overwhelming. This can be linked to Maslow hierarchy of needs, where children need to feel safe and secure before they are fully able to engage in learning (Yurdakul and Arar, 2023). If a child feels overwhelmed by sensory input, it may affect their ability to focus, communicate and participate.

However, children do not all experience sensory input in the same way. (Brandes-Aitken et al. 2024) explain that responses vary depending on the child's sensory profile. For example, while one child may become distressed by excessive sensory input another may actively seek intense sensory experiences. This shows that behaviour cannot be viewed separately from the environment. Behaviour reflects the interaction between the child's sensory needs and the environment around them (Rajuan, Liberman and Bart, 2024)

The medical model views sensory processing difficulties as located within the child and linked to neurological functioning (Miller et al., 2017). From this perspective, interventions often focus on improving or changing how the child responds to sensory input. For example, Ayres Sensory Integration therapy provides structured sensory experiences intended to improve sensory processing over time and reduce sensitivity (Lane et al., 2019; Fodstad et al., 2020).

However, although these approaches may support some children, they may also be criticised for focusing too heavily on changing the child instead of adapting the environment. Green et al. (2015) argue that supporting coping strategies and self-regulation may be more beneficial than attempting to normalise sensory processing differences. This links closely to the social model of disability, which suggests that children are disabled more by barriers within environments and attitudes than by their differences themselves (Lawson and Beckett, 2020). Similarly, neurodiversity approaches, which recognise neurological differences exists on a spectrum rather than correcting deficits (Leinfuss and O'Hara, 2024) and therefore promoting neurodiversity approaches instead of normalising (Zaks, 2025).

Support Strategies

Providing calm or regulation spaces can help children manage sensory overload and maintain emotional regulation (Bray et al., 2025). Sensory-friendly environments aim to reduce overwhelming sensory input by adapting factors such as lighting, acoustics, visual clutter and classroom organisation (Finnigan, 2024). Research by Barrett et al. (2015) found that classroom environments directly influence learning outcomes. Similarly, Ashburner et al. (2014) found that when sensory needs are considered within settings, children show improved participation and reduced distress. This reflects the neurodiversity (pair-ur-dime) paradigm- moving away from trying to fix the child and instead focuses on adapting environments to reduce barriers (Zaks, 2025),

However, environmental adaptation alone may not always fully support children as there is limited evidence on its effectiveness (Piller et al., 2025), - this raises question between the neurodiversity- affirming approaches and medical approaches, which focus heavily on interventions. For example, Bodison and Parham (2018) found that therapy lead intervention such as Qigong sensory treatment improved sensory response and behavioural outcomes. This shows that balancing environmental adaptation with individual support may be more effective, than relying on one approach alone. Additionally, Manning, Williams and MacLennan (2023) highlight that interventions should reflect the child's individual sensory profile rather than relying on generic strategies.

However, there are also practical challenges within settings. Al Jaffal (2022) highlights that limited staffing, resources and time can affect practitioners' ability to consistently adapt environments. This creates a gap between theory and practice. Although inclusive approaches are recognised as valuable, they are not always easy to implement consistently within busy settings. Although, Mitchel (2023) states that manageable strategies and a whole school approach through universal design for learning can support more inclusive practice.

Conclusion

Sensory processing differences affect how children experience, access and participate in learning environments. Identification tools can provide valuable insight into children's sensory needs, limitations around diagnosis may affect access to support and intervention. The impact of environmental barriers highlights the importance of considering both medical and social models of disability. While some approaches focus on increasing sensory tolerance, more inclusive approaches focus on adapting environments and supporting regulation. Research supports environmental adaptations such as regulation spaces and sensory-friendly environment; however, Implementation is often limited by time and resource constraints, although whole-school approaches such as Universal Design for Learning, when broken down into manageable steps, can support inclusion.

Hand over to Helen

Then Mary,

Then Racheal

Questions to ask

Q1 Helen, what barriers do dyslexic learners face in everyday tasks?

Q2 Mary, what role do childcare settings play in identifying children affected by trauma and ACEs?

Q3 Racheal, in your experience, what is the biggest barrier for autistic learners in early years settings?

Answer references

Coussens et al. (2020)

[inclusiveteach.com](https://www.inclusiveteach.com) (2023)

NHS Wales (2024)

Thank everyone and end session

Reference list

Additional Learning Needs and Education Tribunal (Wales) Act 2018 (Anaw 2). Available at: <https://www.legislation.gov.uk/anaw/2018/2/contents> (Accessed: 28 April 2026)

ADHD Direct (n.d.) *ADHD And Sensory processing* [Online image]. Available at: <https://adhdirect.co.uk/blog/adhd-and-sensory-processing/> (Accessed: 10 May 2026).

Al Jaffal, M. (2022) 'Barriers general education teachers face regarding the inclusion of students with autism', *Frontiers in Psychology*, 13(1), pp. no page number. Available at: [doi:https://doi.org/10.3389/fpsyg.2022.873248](https://doi.org/10.3389/fpsyg.2022.873248).

Antalek, C., Dixon, F., Hayton, J. and Kamenopoulou, L. (2025) *Identifying and supporting children and young people with sensory and/or physical needs: a rapid evidence review*. Department for Education . Available at: https://assets.publishing.service.gov.uk/media/68d66b09275fc9339a248d4b/Identifying_and_supporting_children_and_young_people_with_sensory_and_or_physical_needs_a_rapid_evidence_review.pdf (Accessed: 8 May 2026).

Ashburner, J.K., Rodger, S.A., Ziviani, J.M. and Hinder, E.A. (2014) 'Optimizing participation of children with autism spectrum disorder experiencing sensory challenges: A clinical reasoning framework', *Canadian Journal of Occupational Therapy*, 81(1), pp.29–38. Available at: <https://doi.org/10.1177/0008417413520440>

Bailliard, A., Dunn, W., Brown, C. and Engel-Yeger, B. (2022) 'Editorial: Meaningful participation and sensory processing', *Frontiers in Psychology*, 13(no issue number), pp. no page number. Available at: <https://doi.org/10.3389/fpsyg.2022.1045650>

Barrett, P., Davies, F., Zhang, Y. and Barrett, L. (2015) 'The impact of classroom design on pupils' learning: Final results of a holistic, multi-level analysis', *Building and Environment*, 89(1), pp.118–133. Available at: <https://doi.org/10.1016/j.buildenv.2015.02.013>

Ben-Sasson, A., Gal, E., Fluss, R., Katz-Zetler, N. and Cermak, S.A. (2019) 'Update of a Meta-analysis of Sensory Symptoms in ASD: A New Decade of Research', *Journal of Autism and Developmental Disorders*, 49(12), pp.4974–4996. Available at: [https://doi.org/10.1007/s10803-019-04180-](https://doi.org/10.1007/s10803-019-04180-0?urlappend=%3Futm_source%3Dresearchgate.net%26utm_medium%3Darticle)

[0?urlappend=%3Futm_source%3Dresearchgate.net%26utm_medium%3Darticle](https://doi.org/10.1007/s10803-019-04180-0?urlappend=%3Futm_source%3Dresearchgate.net%26utm_medium%3Darticle)

Bodison, S.C. and Parham, D.L. (2018) 'Specific sensory techniques and sensory environmental modifications for children and youth with Sensory Integration Difficulties: A Systematic Review', *The American Journal of Occupational Therapy*, 72(1), pp. no page number. Available at: <https://doi.org/10.5014/ajot.2018.029413>

Brandes-Aitken, A., Powers, R., Wren, J., Chu, R., Shapiro, K.A., Steele, M., Mukherjee, P. and Marco, E.J. (2024) *Sensory processing subtypes relate to distinct emotional and behavioural phenotypes in a mixed neurodevelopmental cohort*. Available at: <https://www.nature.com/articles/s41598-024-78573-2.pdf> (Accessed: 28 April 2026).

Bray, L., Kiernan, J., Neilson, S., Cooper, L., Mulvey-Oates, M., Wright, M., Phipps, D. and Knighting, K. (2025) 'It is Noisy, Busy and Smells Weird: Sensory Friendly Environments for Children and Young People Visiting Health Care Settings', *Child Care in Practice*, no volume number(no issue number), pp.1–16. Available at: <https://doi.org/10.1080/13575279.2025.2544841>

Cleveland Clinic (2025) *Sensory Processing Disorder (SPD): Symptoms & Treatment*. Cleveland Clinic. Available at: <https://my.clevelandclinic.org/health/diseases/sensory-processing-disorder-spd> (Accessed: 8 May 2026).

Coussens, M., Van Driessen, E., De Baets, S., Van Regenmortel, J., Desoete, A., Oostra, A., Vanderstraeten, G., Waelvelde, H.V. and Van de Velde, D. (2020) 'Parents' perspectives on participation of young children with attention deficit hyperactivity disorder, developmental coordination disorder, and/ or autism spectrum disorder: A systematic scoping review', *Child: Care, Health and Development*, 46(2), pp.232–243. Available at: <https://doi.org/10.1111/cch.12735>

Dean, E.E., Little, L., Tomchek, S., Wallisch, A. and Dunn, W. (2022) 'Prevalence Models to Support Participation: Sensory Patterns as a Feature of All Children's

Humanity', *Frontiers in Psychology*, 13(no issue number), pp. no page number.

Available at: <https://doi.org/10.3389/fpsyg.2022.875972>

Finnigan, K. (2024) 'Sensory Responsive Environments: A Qualitative Study on Perceived Relationships between Outdoor Built Environments and Sensory Sensitivities', *Land*, 13(5), pp.636–636. Available at:

<https://doi.org/10.3390/land13050636>

Fodstad, J.C., Kerswill, S.A., Kirsch, A.C., Lagges, A. and Schmidt, J. (2020) 'Assessment and Treatment of Noise Hypersensitivity in a Teenager with Autism Spectrum Disorder: A Case Study', *Journal of Autism and Developmental Disorders*, 51(6), pp. no page number. Available at: [https://doi.org/10.1007/s10803-020-04650-](https://doi.org/10.1007/s10803-020-04650-w)

[w](https://doi.org/10.1007/s10803-020-04650-w)

Freeman-Green, S., Williamson, P. and Cornelius, K.E. (2023) 'Promoting inclusive practices in education: Bridging gaps and fostering independence', *Teaching Exceptional Children*, 56(2), pp.68–69. Available at:

<https://doi.org/10.1177/00400599231223785>

Green, S.A., Hernandez, L., Tottenham, N., Krasileva, K., Bookheimer, S.Y. and Dapretto, M. (2015) Neurobiology of sensory over responsivity in Youth With Autism Spectrum Disorders. *JAMA Psychiatry*, 72(8), pp.778. Available at:

<https://doi.org/10.1001/jamapsychiatry.2015.0737>

Gunderson, J., Worthley, E., Byiers, B., Symons, F. and Wolff, J. (2023) 'Self and caregiver report measurement of sensory features in autism spectrum disorder: a systematic review of psychometric properties', *Journal of Neurodevelopmental Disorders*, 15(1), pp. no page number. Available at: [https://doi.org/10.1186/s11689-](https://doi.org/10.1186/s11689-022-09473-7)

[022-09473-7](https://doi.org/10.1186/s11689-022-09473-7)

Inclusiveteach.com (2023) *Supporting a Child with SPD: 50 Tried and Tested Strategies*.Inclusiveteach.com. Available at:

<https://inclusiveteach.com/2023/07/16/supporting-a-child-with-spd-50-tried-and-tested-strategies/> (Accessed: 8 May 2026).

Jorquera-Cabrera, S., Romero-Ayuso, D., Rodriguez-Gil, G. and Triviño-Juárez, J.-M. (2017) 'Assessment of Sensory Processing Characteristics in Children between 3

and 11 Years Old: A Systematic Review', *Frontiers in Pediatrics*, 5(57), pp. no page number. Available at: <https://doi.org/10.3389/fped.2017.00057>

Lane, S.J., Mailloux, Z., Schoen, S., Bundy, A., May-Benson, T.A., Parham, L.D., Smith Roley, S. and Schaaf, R.C. (2019) 'Neural Foundations of Ayres Sensory Integration', *Brain Sciences*, 9(7), pp.153. Available at: <https://doi.org/10.3390/brainsci9070153>

Lawson, A. and Beckett, A.E. (2020) 'The social and human rights models of disability: Towards a complementarity thesis', *The International Journal of Human Rights*, 25(2), pp.348–379. Available at: <https://doi.org/10.1080/13642987.2020.1783533>

Leinfuss, J. and O'Hara, E. (2024) 'Facilitating inclusion for neurodiverse students using evidence-based practices: A strengths-based approach to sensory regulation', *Journal of occupational therapy, schools & early intervention*, 17(3), pp.1–13. Available at: <https://doi.org/10.1080/19411243.2024.2349306>

Manning, C., Williams, G. and MacLennan, K. (2023) 'Sensory-inclusive spaces for autistic people: We need to build the evidence base', *Autism*, 27(6), pp.1511–1515. Available at: <https://doi.org/10.1177/13623613231183541>

Miller, L.J., Schoen, S.A., Mulligan, S. and Sullivan, J. (2017) 'Identification of Sensory Processing and Integration Symptom Clusters: A Preliminary Study', *Occupational Therapy International*, 2017(no issue number), pp. no page number. Available at: <https://doi.org/10.1155/2017/2876080>

Mills, C., Nash, S., Agho, K.E., Hinitt, J. and Coxon, K. (2025) 'Children's Sensory Processing in the Classroom: A Cross-Sectional Study Using Teacher Rating', *Psychology in the Schools*, no volume number(no issue number), pp. no page number. Available at: <https://doi.org/10.1002/pits.23598>

Mitchell, F. (2023) *Promoting inclusive practice for autistic learners: Universal design for learning*. Available at: <https://files.eric.ed.gov/fulltext/EJ1412183.pdf> (Accessed: 10 May 2026).

NHS Wales (2024) *Our approach*. Aneurin Bevan University Health Board. Available at: <https://abuhb.nhs.wales/hospitals/a-z-of-services/children-and-young-people-occupational-therapy-service/our-approach/> (Accessed: 8 May 2026).

Passarello, N., Tarantino, V., Chirico, A., Menghini, D., Costanzo, F., Sorrentino, P., Fucà, E., Gigliotta, O., Alivernini, F., Oliveri, M., Lucidi, F., Vicari, S., Mandolesi, L. and Turriziani, P. (2022) 'Sensory Processing Disorders in Children and Adolescents: Taking Stock of Assessment and Novel Therapeutic Tools', *Brain Sciences*, 12(11), pp.1478. Available at: <https://doi.org/10.3390/brainsci12111478>

Patil, O. and Kaple, M. (2023) *Sensory Processing Differences in Individuals With Autism Spectrum Disorder: A Narrative Review of Underlying Mechanisms and Sensory-Based Interventions*. Cureus. Available at: https://assets.cureus.com/uploads/review_article/pdf/176734/20240724-319105-ixp8dp.pdf (Accessed: 28 April 2026).

Pearson (2026) *Sensory Profile 2 | Pearson Clinical Assessment UK*. Pearsonclinical.co.uk. Available at: <https://www.pearsonclinical.co.uk/en-gb/sensory-profile-child/Sensory-Profile-2-/p/P100009110?tab=product-details> (Accessed: 28 April 2026).

Persson -Waye, K., Fredriksson, S., Hussain-Alkhateeb, L., Gustafsson, J. and van Kamp, I. (2019). Preschool teachers' perspective on how high noise levels at preschool affect children's behavior. *PLOS ONE*, 14(3), p.e0214464. doi:<https://doi.org/10.1371/journal.pone.0214464>.

Piller, A., Conlin, J.M., Glennon, T.J., Andelin, L., Auld-Wright, K., Teng, K. and Tarver, T. (2025) 'Systematic review of sensory-based interventions for children and youth (2015–2024)', *Frontiers in Paediatrics*, 13(no issue number), pp. no page number. Available at: <https://doi.org/10.3389/fped.2025.1720179>

Raevsky, M., Nabalta, C.A. and Atilas, J.T. (2025) 'Managing Sensory Processing Disorders in an Early Childhood Classroom: Evidence-Based Strategies for Teachers', *Early Childhood Education Journal*, 53 (no issue number), pp.2885–2893 Available at: <https://doi.org/10.1007/s10643-025-01904-z>

Rajuan, G., Liberman, L. and Bart, O. (2024) 'Sensory Processing in Children With Autistic Spectrum Disorder: Clinicians', Parents', Teachers' and Children's Perspectives', *Focus on Autism and Other Developmental Disabilities*, 40(1), pp. no page number. Available at: <https://doi.org/10.1177/10883576241282302>

Realisation Healthcare (n.d.) *Four patterns of sensory processing*. [Online image] Available at: <https://www.realisationhealthcare.com.au/blog/sensory-integration-understanding-the-power-of-the-eight-senses> (Accessed: 10 May 2026).

Tamblyn, A., Sun, Y., North, A., Godsman, N., Boothby, C., Skouteris, H. and Blewitt, C. (2023) 'Educators' perspectives on the role the Early Childhood Education and Care environment plays in supporting children's social and emotional development', *Australian Journal of Early Childhood*, 49(2), pp. no page number. Available at: <https://doi.org/10.1177/18369391231221560>

van den Boogert, F., Klein, K., Spaan, P., Sizoo, B., Bouman, Y.H.A., Hoogendijk, W.J.G. and Roza, S.J. (2022) 'Sensory processing difficulties in psychiatric disorders: A meta-analysis', *Journal of Psychiatric Research*, 151(no issue number), pp.173–180. Available at: <https://doi.org/10.1016/j.jpsychires.2022.04.020>

Winnie Dunn (n.d.) *Sensory profile 2*. [Online image] Available at: <https://www.pearsonclinical.com.au/en-au/Store/Professional-Assessments/Behaviour/Sensory-Profile-2/p/P100010011?productId=9780158999302> (Accessed: 10 May 2026).

Yurdakul, G. and Arar, T. (2023) 'Revisiting Maslow's hierarchy of needs: Is it still universal content?', *Journal of Human Behavior in the Social Environment*, 33(8), pp.1–28. Available at: <https://doi.org/10.1080/10911359.2023.2177227>

Zaks, Z. (2025) 'Moving to a neurodiversity-affirming paradigm in the support system: Autistic professionals as paradigm change', *Neurodiversity*, 3(no issue number), pp. no page number. Available at: <https://doi.org/10.1177/27546330241294138>

