

PUPILS WITH AUTISM

UNIT 10

THE TRIAD AND SENSORY ISSUES

LEARNING OUTCOMES

Trainees will understand:

- the key features of the autism spectrum
- some of the diagnostic terminology, and
- the impact of sensory issues for some individuals on the autism spectrum.

ONLINE RESOURCES

The content and tasks throughout these PDFs are supported by online resources that are designed to facilitate and supplement your training experience.

Links to these are signposted where appropriate. The resources use graphics and interactive elements to:

- Highlight salient points
- Provide at-a-glance content summaries
- Introduce further points of interest
- Offer visual context
- Break down and clearly present the different stages and elements of processes, tasks, practices, and theories

The online resources offer great benefits, both for concurrent use alongside the PDFs, or as post-reading revision and planning aids.

Please note that the resources cannot be used in isolation without referencing the PDFs. Their purpose is to complement and support your training process, rather than lead it.

You should complete any learning or teaching tasks and additional reading detailed in this PDF to make full use of the Advanced training materials for autism; dyslexia; speech, language and communication; emotional, social and behavioural difficulties; moderate learning difficulties.

To find out more about the resources, how they work, and how they can enhance your training, visit the homepage at: www.education.gov.uk/lamb

The first resource for this unit can be found here: www.education.gov.uk/lamb/autism/triad/intro

BRIEFING 1: THE TRIAD

Pupils on the autism spectrum experience difficulties in social interaction and communication and have rigid and repetitive ways of thinking and behaving.¹ These behaviours are thought to be underpinned by difficulties in both the flexible generation of ideas and the understanding of other people's thoughts and feelings. Sensory difficulties are common. These include being either over or under-sensitive to particular sensations or developing a particular interest in them. People with autism are at increased risk of developing childhood psychiatric or mental health disorders, especially anxiety and depression.

There is, however, much variation in the way that children and young people with autism show these different behaviours. A large proportion of individuals with autism (between 35 and 50 per cent) have an additional learning disability, whereas others have average or advanced intellectual abilities. Difficulties with understanding and expressing language vary enormously. For some individuals spoken language is limited or absent altogether, while for others speech can be fluent but their use of language to communicate can often lack the conventional social content and timing, e.g. conversational turn taking. Furthermore, stereotyped and inflexible behaviours range from repetitive movements of the body to idiosyncratic special interests, e.g. prime numbers, train timetables or drainpipes, and an insistence on sameness.

The full autism spectrum, therefore, includes people with very different patterns of behaviour – an observation that first prompted Wing to coin the term 'autistic spectrum' to capture this wide variability.²

Autism is a developmental condition and the presentation in any individual will change with age, with some children experiencing periods of rapid improvement and others stasis or plateauing of development.

The number of children on the autism spectrum in the UK is estimated to be one in a hundred³ meaning that all schools are likely to include pupils who lie somewhere on the autism spectrum. The prevalence of autism is at least four times higher in boys than girls, but the reasons for this gender difference have not yet been determined. Autism has a strong genetic component, although it is now recognised that this consists of both heritable and sporadic (non-inherited) forms. Non-genetic factors

¹ WHO (World Health Organization), 1992. *ICD-10: The ICD-10 Classification of Mental and Behavioural Disorders: Clinical Descriptions and Diagnostic Guidelines*. Geneva: WHO.

² Wing, L., 1996. *Autistic spectrum disorders*. London: Constable.

³ Baird, G., Simonoff, E., Pickles, A., Chandler, S., Loucas, T., Meldrum, D & Charman, T., 2006. Prevalence of disorders of the autistic spectrum in a population cohort of children in South Thames: the Special Needs and Autism Project (SNAP). *Lancet*, 368, pp.210-215.

may also play a role in causing autism, but such instances probably account for a minority of cases and have yet to be identified.

Until recently, many children with autism were not diagnosed until four or five years of age, and even later for some children with Asperger syndrome or those with good language skills and of average or above average ability (sometimes referred to as 'high functioning autism'). However, progress has been made in the earlier identification of autism, and many children, especially those with a more classic presentation of autism in combination with language delay, are now often identified before the age of five years⁴.

See online resource: www.education.gov.uk/lamb/autism/triad/data

BRIEFING 2: THE DIVERSITY WITHIN THE AUTISM SPECTRUM

See online resource: www.education.gov.uk/lamb/autism/triad/diversity

In 1989, David Spicer, an adult with autism, describes the diversity within the autism population thus⁵:

There are many, many people in the world. Some of them are unusual, just like some of the stones on a beach are unusual. The unusual stones can help us to understand the unusual people who are autistic.

Look at the first stone (quartz). You can see clear through it - nothing is hidden. Some autistic people hide nothing, revealing themselves completely to anyone who cares to see.

Now the second stone (Apache tear). Nothing can be seen about it at all. Some autistic people hide everything, and remain a mystery to everyone.

And now the third stone (hematite). The bright chrome finish is very striking. It says just one thing about the stone, but in a way that captures our attention. Some autistic people have one special interest or one special ability, which captures our attention the same way.

⁴ Charman, T. & Baird, G., 2002. Practitioner review: diagnosis of autism spectrum disorder in 2 and 3 year old children. *Journal of Child Psychology and Psychiatry*, 43, pp.289-305.

⁵ Spicer, D., 1989. *A Way of Describing Autism*. [video online] Available at: <<http://www.youtube.com/watch?v=ic-zA4YfW-U>>

Now the fourth (leopard skin). There are many complex patterns, some so intricate and detailed that we cannot see them without help. Some autistic people have many rituals, and structures, and rules for how things need to be.

And the fifth (amethyst). Hold the stone so that only the violet end shows. Now hold it so that only the white end shows. It looks like two completely different stones, but it is still the same one. Some autistic people look quite different, depending on one's viewpoint: is a particular characteristic an asset or a liability? Can it be appreciated and enjoyed, or does it seem to just get in the way? Would the person be better off with it or without it?

Finally, the tiger eye. With good light, and time to spend gazing at it, and the inner quiet to pay attention to it, the stone seems almost alive as we shift it in our hands and see how the light is transformed inside it. The lustrous, shifting patterns have always been there, waiting to be discovered... like the way of being known as autism.

Dave Spicer reminds us that every pupil we meet on the autism spectrum will have a unique presentation. It is important for teaching staff to have a theoretical framework to help them understand autism alongside a willingness to see the strengths, needs and personality of individual pupils.

There are currently three key areas of development that are critical to an individual receiving a diagnosis which places them on the autism spectrum:

- Social understanding and relating
- Social communication, and
- Social imagination and flexibility of thought.

These are explored in more depth in Briefing 3, below.

BRIEFING 3: THE IMPLICATIONS OF AUTISM FOR INDIVIDUAL PUPILS

A theoretical understanding of autism provides a useful framework for appreciating some of the potential differences between a pupil on the autism spectrum and a more typically developing pupil. In the following section, the impact of such differences is considered through the experiences of some individuals on the autism spectrum.

Social understanding and relating

Many people are guided in their interaction with the social world by what may be called a social 'instinct', however, an individual with autism may not have this social instinct and may, instead, have to approach social situations cognitively or intellectually. This means that they may need to think through the expected social

conventions in any situation, rather than instinctively understand what is required or how to behave. This requires more effort and so social encounters can be very tiring and stressful as pupils have, literally, to work things out theoretically. Temple Grandin, a very able adult with autism, has said that *continually trying to work out what to do and what to say is like doing quadratic equations in your head.*⁶

Another able adult with autism, Jim Sinclair, explains how he views autism.

*Being autistic does not mean being inhuman. But it does mean being alien. It means that what is normal for other people is not normal for me, and what is normal for me is not normal for other people. In some ways I am terribly ill equipped to survive in this world, like an extra-terrestrial stranded without an orientation manual. But my personhood is intact. My selfhood is undamaged. I find great value and meaning in my life and I have no wish to be cured of being myself. If you would help me, don't try to change me to fit your world. Don't try to confine me to some tiny part of the world that you can change to fit me. Grant me the dignity of meeting me on my own terms, recognise that we are equally alien to each other, that my ways of being are not merely damaged versions of yours. Question your assumptions. Define your terms. Work with me to build more bridges between us.*⁷

The implications of finding the social world confusing, impenetrable or alienating are significant, for example:

- People are unpredictable
We anticipate what will happen in an interaction by our social ability to predict what is expected and likely to occur. Temple Grandin, tells us:

*Social interactions that come naturally to most people can be daunting for people with autism. As a child, I was like an animal that had no instincts to guide me; I just had to learn by trial and error. I was always observing, trying to work out the best way to behave, but I never fitted in...I wanted to participate, but did not know how.*⁸

- Motivation and intention of others is unclear
We are helped in our predications by our capacity to read the interactional 'subtext', not only what the person is saying to us, but what they mean by what they are saying, what the unspoken messages are. Newson quotes one 18-year-old young man with autism as saying:

⁶ Koop, P. 2009 Audio lecture 24/9/09 cited on <http://eduforthefuture.blogspot.com/2009/09/module-three-anyone.html>

⁷ Sinclair, J., 1992. in Peeters, T. (1997) Autism from theoretical understanding to educational interventions, London: Whurr

⁸ Grandin, T., 1996. *Thinking in Pictures*. New York: First Vintage Books.

*People send each other messages with their eyes and I don't understand those messages.*⁹

See online resource: www.education.gov.uk/lamb/autism/triad/communication

- No social context to inform and shape responses
We are informed by social conventions that guide us in our relating 'styles'; for example, the conventions of the classroom, e.g. putting up a hand to answer or ask a question may also apply in situations, such as school assembly but may not in other school settings, such as talking with friends at the lunch table.
- Focus on irrelevant features.
Shared social conventions help us to focus on shared, relevant aspects of the social environment. Generally, for example, we understand that we need to look at the person speaking to us, or to signal that we are listening even when we are unable to look. We are able to pick out the salient aspects of a situation and these provide us with helpful social information. There are also, for example, conventions about the extent to which we interact with people when we enter a room dependent on familiarity and context. People with autism may be drawn to the non-social aspects of the room. For example, Ros Blackburn, a very able woman with autism says that:

*Autism is the inability to single out people as special, separate, unique entities - different from bits of the furniture, different from even the family pet dog.*¹⁰

Literature on the autism spectrum has often described people with autism as living in a world of their own. Clare Sainsbury, a woman with Asperger syndrome, has responded by saying that she is in our world – but she often attends to different parts of it.¹¹

- Excessive focus on details with a limited ability to prioritise the relevance of details
Wendy Lawson¹², an adult with Asperger syndrome describes this very well. The term used to describe how typically developing individuals use attention, i.e. with several interests are aroused at any given time is polytropism. Typical individuals are able to divide and shift attention and multi-task. Those on the autism spectrum however are more likely to be monotropic – much less able to divide and shift their attention and are likely to be very focused on a single activity or interest. Wendy has said that when absorbed on a task, she often literally

⁹ Newson, E. The socially aware Autistic child and adult. [online] Available at <http://www.aspergersyndrome.org/Articles/The-Socially-Aware-Autistic-Child-and-Adult.aspx>.

¹⁰ Blackburn, R. (2005) Lecture at Surrey University, 26/6/05

¹¹ Sainsbury, C., 2000. *Martian in the Playground*. Bristol: Lucky Duck.

¹² Lawson, W., 1996. *Life Behind Glass*. London: Jessica Kingsley.

becomes 'deaf' to the requests of others and finds it hard to refocus quickly on a different task. In school, pupils are frequently called upon to multitask and to switch quickly from one topic or task to another, so pupils on the autism spectrum may be unable to keep track and are then often behind other pupils in organising their thoughts, belongings and actions.

See online resource:

www.education.gov.uk/lamb/autism/triad/polytropic-monotropic

- Fear and anxiety

Anxiety is a natural reaction to social situations that are unpredictable. Sean Barron, a man with autism, has written much about his levels of anxiety which were so extreme that he experienced them as terror:

I have no idea how many ways there are to deal with a level of fear so great that it hangs over you like a storm cloud. The three remedies I chose and that made the most sense to me in all areas of my life were repetition, repetition and repetition (p. 85).¹³

Social Communication

- Delay or lack of development of speech without compensating gesture (autism not Asperger syndrome)

Some children with autism do not use spoken language to express themselves throughout their lives. Others may use a small number of spoken words to express basic needs. A minority do go on to use spoken language skilfully but often this can place considerable demands on the individual.

I visualise verbs...Adverbs often trigger inappropriate images...For example, 'he ran quickly' triggers an animated image of Dick from the first grade reading books fast, and 'he walked slowly', slows the image down. As a child I left out words such as 'is', 'the', and 'it' because they had no meaning by themselves....To this day certain verb conjugations, such as 'to be' are absolutely meaningless to me.¹⁴

- Unusual non-verbal communication: gesture, facial expression, body position or proximity

All individuals on the autism spectrum will find some aspects of non-verbal communication problematic. Marc Segar, in his remarkable online Asperger

¹³ Grandin, T., and Barron, S., 2005. *Unwritten rules of social relationships*. Texas: Future Horizons.

¹⁴ Grandin, T., 2006. *Thinking in Pictures, Expanded Edition: My Life with Autism*. New York: Vintage.

syndrome survival guide¹⁵, offers advice on coping with many aspects of relating to others. There is a large section relating to many elements of non-verbal communication. Here is his advice to others with Asperger syndrome on how to manage eye contact:

Eye contact is hard to get right because it is hard to tell whether you are giving someone too much eye contact or too little when they are talking to you.

While people are not talking and when you are not talking to them, it is often best not to look at them. This is because people can usually see that you are looking at them out of the corner of their eyes and this may make them feel uncomfortable, in which case they might talk about you behind your back. To control your gaze might be difficult for you but it is by no means impossible.

If you point at someone when you are talking about them to someone else, this may seem rude if they notice. If you are arguing with someone and point at them while giving eye contact, this may come across as quite aggressive. Try not to point at people - it will help you stay out of trouble.

When you are talking to someone or they are talking to you, you are expected to look at them bearing in mind the following guidelines:

- *To look at someone for less than one third of the time may be communicating that either you are shy (if you keep looking down) or you are dishonest (if you keep looking to the side)*
- *To look at someone for more than two thirds of the time may be communicating that either you like them (if you are looking at the face as a whole) or you are aggressive (if you are looking straight into their eyes)*
- *To look at someone for the whole time giving steady and unbroken eye contact can mean one of two things. Either you are challenging them (the aggressive gaze) or you fancy them (the intimate gaze). However, in other cultures (e.g. Mediterranean Europe) it can also symbolise companionship. For someone with autism it can be very difficult because first we have to be sure that it IS appropriate. Also fixed eye contact can forcefully distract us when we try to talk.*

- **Literal/concrete understanding**

Much communication involves unspoken, sub-text elements. This requires us to go beyond the literal interpretation of the words in order to hear the message beneath. For example, the phrase, 'I hope you're pleased with yourself!' usually means the opposite.

¹⁵ Segar, M. 1997. *Coping: A Survival Guide for People with Asperger Syndrome*. [eBook] Available at: <http://www-users.cs.york.ac.uk/~alistair/survival/>.

Misreading social sayings can sometimes lead to serious, but more often embarrassing results. I once went to a pub where a friend wished to buy me a drink, but didn't say so in as many words; he simple remarked, 'It's on the house'. It was only an hour later, after I had been trying to figure out why anyone would put a drink on the roof of the pub...that I found out the true meaning of the phrase. (Marc Fleisher)¹⁶

- Failure to respond to the speech of others.

Jim Sinclair¹⁷ says:

Because I didn't use speech to communicate until I was twelve, there was considerable doubt about whether I would ever be able to learn to function independently. No one guessed how much I understood, because I couldn't say what I knew. And no one guessed the critical thing I didn't know, the one missing connection that so much else depended on: I didn't communicate by talking, not because I was incapable of learning to use language, but because I simply didn't know that that was what talking was for. Learning how to talk follows from knowing why to talk - and until I learned that words have meanings, there was no reason to go to the trouble of learning to pronounce them as sounds. Speech therapy was just a lot of meaningless drills in repeating meaningless sounds for incomprehensible reasons. I had no idea that this could be a way to exchange meaning with other minds (pp.322).

- Stereotyped and repetitive use of language.

In everyday conversation, the echoing of speech is often an indication that the listener has not fully grasped the content of the communication, but is entering into the exchange of words with another. However, for people with autism it may also indicate a pleasure in hearing certain words, phrases or questions repeated. For example, one pupil, called Paul here, would use the phrase, *floating overskirts* not to initiate a conversation or communicate a particular need, but apparently for the enjoyment of saying the words. Sometimes, however, there is clear communicative intent such as the young man who would say, 'You need to go to the toilet, I'll wait outside' – an exact repetition of the words his mother would say, which he would then repeat to indicate his current need to go to the toilet.

¹⁶ Fleisher, M., 2003. *Making sense of the unfeasible: my journey with Asperger Syndrome*. London: Jessica Kingsley.

¹⁷ Sinclair, J., 1992. Bridging the gaps: an inside-out view of autism. In: Scholper, E. and Mesobov, G. (eds) 1992. *High Functioning Individuals with Autism*. New York: Plenum Press.

- Pronoun reversal

Many pupils on the autism spectrum have difficulty in understanding and using the correct personal pronouns (I, you, me, he, she, them) and while this is true for typical children in the early years, most children without autism, eventually understand their use. It is not surprising that those with autism are confused that the pronoun 'you' can mean the other person – or can refer to the child him or herself, depending on the context. Many children also have a problem in understanding that 'I' refers to them, in addition to their own name. In fact, Wendy Lawson – a very able person with Asperger syndrome who is in her 50s, still prefers to refer to herself using her first name and will say, 'Wendy would like to go for a walk now', rather than, 'I would like to go for a walk now'. Some children with autism will use repeated phrases, such as, 'You want a biscuit' when, in fact, they want a biscuit, as they are repeating the phrase they often hear when being given a biscuit, i.e. 'Do you want a biscuit?'. It is, therefore, helpful for teachers of young children to use actual names rather than 'I', 'you', 'me' and 'them' and to realise they have to teach the use of pronouns specifically.

- Failure to initiate or sustain conversations in a predictable way
Jim Sinclair explains his difficulties in conversation below:

People seem to expect me to notice them and relate to them no matter who they are, just because they happen to be there. But if I don't know who people are, I don't know how (or why) to talk to them. I don't have much of a sense of people-in-general as things to be involved with. And I don't know how to have prefabricated relationships; if I happen to be involved with some person-in-particular, I practically have to learn to talk all over again to develop a common language with that person.¹⁸

- Unusual prosody.

With people with autism, some speech may be delivered in a monotone and may lack the more usual rise and fall of spoken language. The following is from the section on tone of voice from Marc Segar's commentary for others with Asperger syndrome:

You might be one of these people who almost talks in a single tone without knowing it...The intonation in our voices is extremely important in determining whether we are being enthusiastic or sarcastic about something. It is also important in telling whether we mean something seriously or just as a joke. To talk in a single tone can make it sound as if you're depressed. When talking about

¹⁸Sinclair, J., 1992. Bridging the gaps: an inside-out view of autism. In: Scholper, E. and Mesobov, G. (eds) 1992. *High Functioning Individuals with Autism*. New York: Plenum Press.

*something good or exciting, you have to make yourself sound excited too, otherwise people tend to think it sounds strange.*¹⁹

- Semantic/conceptual difficulties

Establishing communication and understanding between any two people with different experiences and perspectives involves developing a common language. An autistic person's experience and vocabulary (verbal and non-verbal) may be so idiosyncratic that it takes a great deal of effort on both sides to develop this common language. Instead of attributing all difficulties in communication to the pupil with autism, it is important to accept that communication is a two-way process and that other people, e.g. school staff, can modify what and how they speak to support the pupil.

- Switching attention (from activity, routine, thoughts)

Dominique Dumortier, a woman with autism, advises that,

*Many of my problems can be sidestepped by pre-planning. Schedules are very important to me. I need to know well in advance what is going to happen, how, who is involved and so on. Everything is always planned... I cannot function without planning. Any change of plan leads to frustration, powerlessness, anger and anxiety....*²⁰

- Understanding that other people may see things from a different point of view

Many individuals on the autism spectrum find it difficult to understand that someone else may have a different feeling, thought, belief or opinion from themselves. Even when this is understood, there may still be a tension in appreciating another's view or perspective. Donna Williams, an able person with autism, explains her struggle thus:

*I learned to act as though I had a sense of 'us' and 'we' even if my systems integration problems made it very difficult to consistently process internal 'self' and external 'other' at the same time; an experience that is essential to grasping what 'social' is, and how to be it and why you might want to be.*²¹

- Generalising concepts, which leads to inflexibility.

Wendy Lawson has described her difficulty with generalising information. This means that a skill she has learned well in one situation, such as crossing the road, may have to be re-taught and re-learned when she is faced with a new and different situation, such as a road somewhere else. As she notes:

¹⁹ Segar, M., 1997. *Coping: A Survival Guide for People with Asperger Syndrome* [eBook] Available at: <http://www-users.cs.york.ac.uk/~alistair/survival/>.

²⁰ Dumortier, D., 2004. *From another planet: autism from within*. London: Sage.

²¹ Williams, D., 1996. *Nobody Nowhere*. London: Jessica Kingsley.

*Every situation that I encounter is like encountering it for the first time. I tend to not take what I have learnt from one situation and be able to apply it to another*²²

- Repetitive enacting of roles/routines, often copied without understanding the purpose behind the actions

On her website²³, Wendy Lawson describes a situation she experienced at University:

I was supposed to change one sheet from my bed every week. I didn't know how to do this (should I carry the sheet in a plastic bag, tuck it under my arm or what). I didn't change any sheets for 5 weeks. Then I saw another student taking a sheet to the laundry, so I did as they were doing. The laundry lady said, "Top to bottom dear" I hadn't any idea what she was talking about so, as usual, I just smiled. It was several weeks later, after I had been taking my one sheet to the laundry, that I realised what she had meant. I helped my friend change the sheet on her bed. As we did so she said 'top to bottom' and placed the top sheet on the mattress, using the clean sheet as the top sheet under her quilt. 'Oh!' I said, 'Is that what you are supposed to do?' I had simply been taking my top sheet off the bed and putting the clean one on in its place. I hadn't changed the bottom sheet at all!!

- Developing play skills in relationship with another.

Kenneth Hall, writing as a child with autism, says that:

*I always knew I was different and that I wasn't quite like other children. It's hard to say exactly how I knew. I detected some differences and I felt that things were not the same for me as for other children. Other children seemed to behave differently, play differently and talk differently, but I didn't know why. At that time, although I felt different I felt normal about being different. I thought I was the normal one and that it was the other people who were different, not me, which is a perfectly feasible way of thinking.*²⁴

Similarly, Liane Holliday Wiley says she:

*...never understood group dynamics, particularly casual friendship dynamics that work on giving and taking, role playing and modelling, rule following and turn taking.*²⁵

²² Lawson, W., 1999. (updated 2010) Adolescents, Autism Spectrum Disorder and Secondary School on Wendy's website: <http://www.mugsy.org/wendy/#Papers>

²³ Lawson, W. Uneven skills on website: : <http://www.mugsy.org/wendy/#Papers>

²⁴ Hall, K., 2001. *Asperger syndrome, the universe and everything*. London: Jessica Kingsley .

²⁵ Wiley, L., 1999. *Pretending to be normal: living with Asperger's syndrome*. London: Jessica Kingsley.

See online resource: www.education.gov.uk/lamb/autism/triad/sensory

TASK 1

Read an autobiographical account by an individual on the autism spectrum. Make notes on the following:

- How representative do you think this account is?
- What are the key experiences described by the author?
- In what ways can their experience inform you about pupils on the autism spectrum known to you?

Some suggested autobiographical accounts are listed here – there are many others:

Dominique Dumortier (2004) *From another planet: autism from within*. London: Sage

Mark Fleischer (2003) *Making Sense of the unfeasible: my journey with Asperger Syndrome*. Jessica Kingsley Publishers

Gunilla Gerland (2003) *A real person: life on the outside*. UK; Souvenir Press

Kenneth Hall (2001) *Asperger syndrome, the universe and everything*. London: Jessica Kingsley

Luke Jackson (2002) *Freaks, Geeks and Asperger Syndrome*. London; Jessica Kingsley

Wendy Lawson (2000) *Life behind glass: a personal account of life with autism spectrum disorder* London; Jessica Kingsley

Clare Sainsbury (2009) *Martian in the playground, revised edition*. London; Sage

Daniel Tammet (2006) *Born on a blue day*. UK; Hodder and Stoughton

Liane Holliday Willey (1999) *Pretending to be normal: living with Asperger Syndrome*. London; Jessica Kingsley

BRIEFING 4: SENSORY ISSUES

One of the features described by Kanner in 1943²⁶ was over-sensitivity to stimuli. However, this has only intermittently drawn the attention of researchers until relatively recently. A feature of a diagnostic criterion is that it should differentiate a condition from others and be a necessary element of the diagnosis. There is, up to this point, no evidence to support the contention that such over-sensitivity is universal to people on the autism spectrum. However, there are indicators that it is an issue for many individuals with autism and Asperger syndrome. Wendy Lawson, an adult with Asperger Syndrome (AS) comments:

Sensory differences occur for many of us. There is the paradoxical phenomenon of hyper- and hyposensitivity to sound, light, taste and touch. I look forward to a time when sensory needs in AS children and adults are accommodated and included in any educational, vocational and family setting (p. 36).²⁷

One researcher, Ed Ornitz, felt that there were some important clusters of behaviours that were not included in the triad of impairments. In the 1970's and 1980's, he conducted a number of investigations exploring the impact of sensory responses that he felt were particularly marked in children under five years of age with a diagnosis of autism. In his remarkable book recording his meetings with many of the pioneers in the field of the autism spectrum, Adam Feinstein reports on his conversation with Ornitz in which he notes:

Disturbances of sensory modulation were characterised by under- and over reactivity of sensory stimulation. The under-activity included ignoring background stimuli, distress from stimulation, and, paradoxically, behaviour that provides repetitive sensory input... The disturbances of sensory modulation occur in response to visual, auditory, tactile and vestibular input, and input in all of these modalities evokes either severe distress or, paradoxically, the seeking out of such stimulation.²⁸

In his 1978 study²⁹, Ornitz conducted a survey of over 100 pre-school children, 74 with autism and 38 typically developing. He found that up to 71 per cent of children with autism showed disturbances of sensory modulation, while none of the typical group showed any. In 1988, he conducted a similar study but with a larger group of 242 children with autism, under the age of six years. He was able to demonstrate a

²⁶ Kanner, L. (1943) Autistic Disturbances of Affective Contact available at: <http://affect.media.mit.edu/Rgrads/Articles/pdfs/Kanner-1943-OrigPaper.pdf>

²⁷ Lawson, W., 2011. *The Passionate Mind*. London: Jessica Kingsley.

²⁸ Feinstein, A., 2010. *A history of autism*. Oxford: Wiley-Blackwell.

²⁹ Ornitz, E., 1978. Neurophysiological studies. In: Rutter, M. and Schopler, E. (Eds.), *Autism: a reappraisal of concepts and treatment*. New York: Plenum. (p117-139).

high correlation between disturbances of sensory modulation and disturbances in social relating.

More recently, a group of researchers has investigated the behavioural and developmental characteristics associated with sensory responses. Leekham, Nieto, Wing and Gould³⁰ found that 85 per cent of the children on the autism spectrum in their investigation had unusual sensory responses in the three domains assessed: proximal (including different tactile and olfactory behaviours), auditory, and visual. This was not related to intellectual ability. Compared with three control groups - typically developing children, children with speech and language impairments and a group with developmental delay - the children on the autism spectrum were more likely to have difficulties in more than one sensory domain. In a separate survey of 200 individuals on the autism spectrum, they found that the sensory difficulties were evident at all ages and across the range of cognitive ability. However, there were some significant differences in that the visual domain appeared to reduce with age and was more frequently an ongoing issue for individuals with some cognitive difficulties.

The reported accounts of individuals on the autism spectrum provide some insight into their first-hand experiences of sensory processing difficulties in the different domains:

- Generally

Autism is a developmental disorder. A defect in the systems which process incoming sensory information causes the child to over-react to some stimuli and under-react to others. (Temple Grandin)³¹

School was a nightmare! I was so easily caught away with life's interruptions. It might have been a child coughing, a bus passing by on the road outside, a bird singing, or simply my own thinking trying to work out words from a previous conversation. My ears are very sensitive to particular sounds and certain noises really hurt me...even today. I wear tinted glasses to help me cope with the light that hurts my eyes and I only wear cotton next to my skin because of discomfort with how other materials feel. (Wendy Lawson)³²

The corridors and halls of almost any mainstream school are a constant tumult of noises, echoing, fluorescent lights, bells ringing, people bumping into each other, the smells of cleaning products and so on. For anyone with the sensory hypersensitivities and processing problems typical of an autistic

³⁰ Leekham, S.R., Nieto, C. Libby, S., Wing, L. & Gould, J. 2006. Describing the sensory abnormalities of individuals with autism. *Journal of Autism and Developmental Disorders*

³¹ Grandin, T. (1986). *Emergence: Labeled autistic*. New York, NY: Warner Books, Inc

³² Lawson, W. (2011) *The Passionate Mind*, London: Jessica Kingsley

spectrum condition, the result is that we often spend most of our day perilously close to sensory overload. (Clare Sainsbury)³³

Olfactory

[As a reaction to perfume] ...my mouth tasted like I had eaten a bunch of sickly smelling flowers. (Donna Williams)³⁴

Tactile

I was supersensitive to the texture of food and I had to touch everything with my fingers to see how it felt before I could put it in my mouth. I really hated it when food had things mixed with it, like ...bread with fillings to make sandwiches. I NEVER NEVER put any of it into my mouth. I knew if I did I would get violently sick. (Sean Barron)³⁵

I pulled away when people tried to hug me, because being touched sent an overwhelming tidal wave of stimulation through my body. Small itches and scratches that most people ignored were torture. (Temple Grandin)³⁶

Visual

Together, the sharp sounds and the bright lights were more than enough to overload my senses. My head would feel tight, my stomach would churn, and my pulse would run my heart ragged until I found a safety zone. (Lianne Holliday Willey)³⁷

Auditory

My hearing is like having a hearing aid with the volume control stuck on 'super loud'. It is like an open microphone that picks up everything. I have two choices: turn the mike on and get deluged with sound, or shut it off. (Temple Grandin)³⁸

Because other people's sound processing was alien to me, I had no idea that sound should not be like a pressure-cooker lid. I put my hands to my ears for loud sudden noises. But the continuous clamour of everyday life was only relieved by movement. Even in the classroom there was visual stimulation and noise, which combined with my own breathing and a buzzing effect that I think was my own inner ear. I rocked, swayed and scampered. Even though I

³³ Sainsbury, C. (2000) *Martian in the Playground*, Bristol: Lucky Duck

³⁴ Williams, D. (1996) *Nobody Nowhere*, London: Jessica Kingsley

³⁵ Grandin, T, and Barron, S. *Unwritten rules of social relationships*, Texas: Future Horizons, p.85

³⁶ Barron, S (2002) *There's a boy in here*. USA; Future Horizons P. 96

³⁷ Holliday Wiley, L. (1999) *Pretending to be normal: living with Asperger's syndrome*, London: Jessica Kingsley

³⁸ Grandin, T. (1999) *An insider's view of Autism* cited in S.Wolff (1995) *Loners: the life path of unusual children*. London, Routledge. P. 110

*knew how to sit in one place and that it was expected of me.*³⁹ (Lucy Blackman)

The vestibular sense

The vestibular system is concerned with balance and movement and it receives sensory information from the movement and position of the body through the inner ear and other senses such as sight. Different type of vestibular movement can have a stimulating or calming effect. For example, while rocking may be calming, spinning can be stimulating.

*I love feeling a sensation of height and, as a kid, was always climbing things; I love any kind of motion, like riding in a car or flying. I love spinning rides at amusement parks and when I was a kid I used to rock myself or stand up and spin around in circles. To this day I still love rocking chairs, and I even occasionally find myself spinning in my computer chair at home.*⁴⁰

The proprioceptive sense

Closely connected with the tactile and vestibular systems, proprioception provides information about our position in space or movement through our muscles and joints.

*I found myself physically stuck and physically disconnected. I struggled to 'remember' how to cross the room or open a drawer, but I was now trying to remember with my body and my body had little memory of moving as me. Inside of me I was thinking, 'Come on leg, you know what to do'. But it was like my body couldn't hear me. Like I had no body memory.*⁴¹ (Donna Williams)

Occupational therapists who have training in sensory issues and their management can provide advice and information about addressing sensory aspects of the environment and activities which may be challenging for pupils on the autism spectrum

TASK 2

Undertake a sensory audit of your educational setting using the Sensory checklist, reproduced below, from the Resources section of the on-line Inclusion Development Programme on the autism spectrum (now archived but available via:

<http://teachfind.com/idp-primary-and-secondary-teaching-and-supporting-pupils->

³⁹ Blackman, L. (1999) *Lucy's story: Autism and other adventures*, London: Jessica Kingsley, p.51

⁴⁰ (from *Wrong Planet Syndrome*, posted by adult with Asperger Syndrome, 2007)

⁴¹ Williams, D. (1996) *Nobody Nowhere*, London: Jessica Kingsley

[autism-spectrum](#))⁴². Which aspects of the environment might contribute to the sensory over-arousal (hypersensitive response) of pupils on the autism spectrum?

TABLE 1: SENSORY CHECKLIST

Visual			
Pointer	Evidence to look for	Current situation	Possible action (if needed)
Classroom illumination is suitable for pupils on the autism spectrum.	Fluorescent lights are regularly checked and changed. (Flickering lights can be very disturbing.)		
	The effects of light coming into the room through blinds and creating distracting patterns are minimised.		
	Light reflecting on objects such as metal or shiny surfaces in the classroom is minimised.		
The classroom is orderly and not cluttered so that pupils can make sense of the environment.	The impact of wall displays is considered. (Busy and cluttered wall displays can be distracting).		
	Designated areas for specific activities to give clarity to the classroom organisation.		
	Pupils have the		

⁴² <http://teachfind.com/idp-primary-and-secondary-teaching-and-supporting-pupils-autism-spectrum>

	opportunity to work at a workstation to focus their attention, if necessary.		
NOISE AND SOUNDS			
Pointer	Evidence to look for	Current situation	Possible action (if needed)
Sounds from classroom equipment are kept to a minimum.	Televisions, videos, audio systems and computers are switched off when not in use to avoid a mains hum.		
	Fluorescent lights are checked regularly so that they do not hum.		
There are strategies in place to reduce noise when rooms are in use.	Classrooms are carpeted to lessen noise created by the movement of people, chairs and desks.		
	The acoustics of the gym, dining hall and hall are checked and modified to lessen echo		

	Hallways are carpeted to lessen the noise created by movement through the corridors.		
Sounds from outside the classroom do not cause problems within classrooms.	Windows are suitably soundproofed so that the noise of passing traffic is not a nuisance.		
There are agreed strategies in place when noise becomes too much for individual pupils.	There is a quiet room available which provides a calm place for pupils to relax.		
Pupils are warned if a loud noise or bell is going to sound.	Strategies are put in place to support pupils who find loud noises or fire bells very difficult to tolerate.		
SMELL			
Pointer	Evidence to look for	Current situation	Possible action (if needed)
Smells within the classroom are kept to a minimum.	The smell of paints, glue, clay and cleaning fluids is minimal.		
	Staff are aware that the smell of perfumes and deodorants may be distressing.		
	Staff are aware that pupils may react to the smell of others.		

Smells from outside the classroom are monitored and reduced, where possible	Alternative toileting arrangements are allowed (e.g. possible use of staff or disabled toilets).		
	The smell of cooking from the cafeteria or food technology rooms is reduced.		
TOUCH AND FEEL			
Pointer	Evidence to look for	Current situation	Possible action (if needed)
Uncomfortable clothing (seams, inflexible or itchy fabrics) is avoided, where possible, unless there are safety issues	Variations of the school uniform offer enough flexibility to enable pupils to be able to wear clothing they find comfortable.		
	Willingness of the school to adapt the school uniform (E.g. wear a sweatshirt, a necktie loosely or one that pins on).		
Alternative arrangements are made for pupils who find writing to be physically painful.	Willingness of the school to allow some work or homework to be typed.		
	Possible use of an 'Alpha Smart' or laptop for written work.		

Seating is comfortable.	Padding is used to make hard chairs more comfortable.		
	Pupils are allowed to sit on carpet squares if the floor is not carpeted.		
	Height of tables and chairs is appropriate for pupils.		
GENERAL SENSORY ISSUES			
Pointer	Evidence to look for	Current situation	Possible action (if needed)
Pupils are encouraged to let others know if they are finding a sensory aspect of the environment distressing.	Pupils know that they can speak to someone about concerns.		
	Pupils have a designated person or mentor to talk to.		
Pupils are relaxed when moving through corridors. (Pupils can become anxious in busy corridors due to noise, dislike of crowds and worry about being touched).	Pupils are allowed to leave the classroom slightly earlier or later than peers to avoid noisy corridors/crowds.		

Classroom organisation takes into account the individual needs of pupils.	Classroom organisation and individual seating plan takes into consideration individual sensory concerns (e.g. A pupil with a fascination with light reflection does not sit by the window).		
	Pupils who become anxious by the close proximity of others are allowed ample space around their seat.		
Dinner halls and queuing systems do not cause distress (due to the noise levels, smells and crowds).	Pupils are allowed to enter the dinner hall before or after peers to avoid queuing and crowds.		
	An adult or buddy may escort a pupil to and within the dinner hall.		
A system of support is available for pupils experiencing sensory overload.	Learning breaks are allowed when necessary.		

	There is a designated place and a clear system/routine for pupils to follow if they feel they need to withdraw due to sensory overload to 'chill out.'		
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This sensory audit is based on one designed by Val Jones and Ian Attfield to help staff in assessing and creating an environment that encourages the participation of pupils on the autism spectrum. It does not cover all aspects, but gives ideas on the ways in which the setting might be altered if pupils experience sensory processing difficulties and find it hard or very anxiety provoking to tolerate certain sensations or situations⁴³.

TASK 3

1. Read either:

- Bogdashina, O. (2003). *Sensory Perceptual Issues in Autism and Asperger Syndrome*. London: Jessica Kingsley, or
- Smith Myles, B., Tapscott Cook, K, Miller, N.E., Rinner, L., and Robbins, L.A., (2000). *Asperger Syndrome and Sensory Issues*. Kansas: Autism Asperger Publishing Co.

Both of these have useful observation checklists for building up a sensory profile of a pupil:

2. Start to build a sensory profile of a pupil on the autism spectrum known to you. Gather information from:

- the pupil
- parents/carers/family members of the pupil
- staff from the educational setting, and
- staff from other settings, e.g. after school clubs.

⁴³ <http://teachfind.com/idp-primary-and-secondary-teaching-and-supporting-pupils-autism-spectrum>

You may find the following pupil audit useful in compiling personalised sensory profiles. It is adapted from The Scottish Autism Toolbox⁴⁴. The grid highlights some aspects of behaviour that may have a sensory foundation. The suggested strategies will not apply to all pupils and should not be viewed as a blanket approach. Before implementing it is advisable to at least discuss potential strategies with an Occupational Therapist to ensure appropriateness

TABLE 2: THE IMPACT OF SENSORY PROCESSING ISSUES

The Impact of Sensory Processing Issues in Autism on Learning – (adapted from The Scottish Toolbox)		
Tactile processing issues	Responding to the needs	Specific strategies and examples

⁴⁴ [The Autism Toolbox: An Autism Resource for Scottish Schools \(2009\) available on: http://www.scotland.gov.uk/Publications/2009/07/06111319/0](http://www.scotland.gov.uk/Publications/2009/07/06111319/0)

<p>Pupil is uncomfortable with light touch and can become upset / aggressive if touched unexpectedly.</p>	<ul style="list-style-type: none"> • Ensure the pupil is seated near the back and side of the class so he can see others moving towards him. • Delineate the area the pupil is to sit on during 'Circle Time' or floor work by using a carpet tile (even better give each pupil their own tile so as not to make the one pupil different). • Ensure others are not sitting too close. • Ensure the pupil is either at the front or the back of the line for coming in/out class. Allow the pupil to be door monitor so he can hold the door open and all others can pass through ahead of him. • Arrange for the pupil to be allowed into the dinner hall ahead of their peers so he can get sorted and seated before the rush starts. • Forewarn the pupil before you touch him, by saying his name first and moving through his visual field to reach him. • Do not force the pupil to participate in messy play e.g. finger painting etc. but allow him alternatives such as using a paintbrush. 	<ul style="list-style-type: none"> •
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Visual processing issues	Responding to the needs of pupils with autism	Specific strategies and Examples
Pupil finds bright lights uncomfortable.	<ul style="list-style-type: none"> • Natural light is a better option than strip lighting, both from a visual and auditory perspective, so avoid artificial light sources if it is a bright day. • Allow the pupil to wear a peaked cap; if not allowed in class then at least allow him to use in the playground and for PE classes being held outside. 	<ul style="list-style-type: none"> •
Pupil uses vision as a stimulus.	<ul style="list-style-type: none"> • Keep classroom environment as clutter-free as possible. If your preferred teaching style is to have busy walls then ensure the pupil has a screened off workstation with high sides, blank walls and a visual timetable only. • Allow the pupil some small visual toys for their sensory box that he may play with during timetabled 'sensory breaks' throughout the day. 	<ul style="list-style-type: none"> •

Auditory processing issues	Responding to the needs of pupils on the autism spectrum	Specific strategies and examples
<p>The pupil is easily distracted by loud or extraneous noise.</p>	<ul style="list-style-type: none"> • Shut doors or windows to reduce external noise. • Pre-warn the pupil before any tests of the fire alarm system. • Allow the pupil to use headphones whilst working. • Earplugs might help in situations such as assembly/ dinner hall etc. During assembly ensure the pupil is seated at the end of a row, next to the teacher/adult if possible. • Reduce the amount of electrical equipment used during times of concentration. • The noise of a pencil on paper can be uncomfortable and the pupil may prefer to use a ballpoint pen. 	<ul style="list-style-type: none"> •
<p>The pupil hums constantly (either to block out extraneous noise or because he is seeking auditory input).</p>	<ul style="list-style-type: none"> • If the pupil needs to hum to concentrate, teach him to do so quietly. Position him in class where he is less distracting to others. • Giving the pupil a vibrating toy to hold in this hand whilst working or allowing him to sit on a vibrating cushion can reduce the degree of humming. 	<ul style="list-style-type: none"> •

Concentration issues	Responding to the needs	Specific strategies and examples
The pupil needs to calm and focus.	<ul style="list-style-type: none"> • Get the whole class to do 'chair press-ups' prior to any writing activity. • Use weighted 'wheat germ bags' laid over the pupil's knees, shoulders or back of the neck to provide additional proprioceptive input during desk-based tasks. • Have plenty movement breaks throughout the day. 	<ul style="list-style-type: none"> •
The pupil tends to rock in chair or fidget.	<ul style="list-style-type: none"> • Allow the pupil to play with a fidget toy whilst working and listening. Small key rings or pencil toppers can be a discreet way of providing a 'fidget opportunity'. • Provide the pupil with a 'Movin'sit' cushion or allow them to sit on a therapy ball during periods when intense concentration is required. • Have plenty movement breaks throughout the day. • Use a 'Movin'sit' or therapy ball as above. • Carry out action songs (e.g. 'Head, Shoulders, Knees and Toes' or 'Alive, Alert, Awake, Enthusiastic') as a class activity prior to periods of concentration. 	<ul style="list-style-type: none"> •
The pupil appears slouched or lethargic.	<ul style="list-style-type: none"> • Precede any period of sitting with a burst of active movement e.g. star jumps, skipping etc. 	<ul style="list-style-type: none"> •