

Sensory issues and autism at Lakeside School.

This booklet is developed with close reference to 3 sources:

- Wendy Lawson's book: 'Understanding and working within the spectrum of autism'.
- Olga Bogdashina's book: 'Sensory perceptual issues in autism and Asperger syndrome.'
(It is important to note that both these authors speak from personal experience of autism and from the perspective of personal accounts of high functioning people with autism who are able to verbalise how autism feels 'from the inside'. Our pupils cannot tell us how they are feeling with words but often have to resort to letting us know through highly challenging behaviour that they are uncomfortable. Challenging behaviour is not part of autism. It is the failure of the environment to adapt to the needs of people with autism that causes challenging behaviour.)
- Practical ideas gleaned from courses and internet searches. These are referenced where possible.

In order to understand how autism affects sensory input, perception and integration, it is first necessary to understand how it works for 'Neuro typical people', that is people who do not have autism.

In Neuro Typical people:

- Sensory input is transformed, reduced, elaborated, stored, recovered and used. (Neisser)
- Acquisition of knowledge requires many mental skills- attention, memory, visual imagery, language, problem solving and decision making.
- Information is taken in through the senses to form mental images and thoughts.
- Thus it is possible to analyse how useful the information is. Decisions are made to either store it or throw it out.
- Neuro typical people can maintain a state of readiness and awareness because they are 'polytropic'. That is they can attend to more than one stimuli at a time.

For People with Autism

- Senses are not well coordinated, balanced, definable or separated.
- Information has to be de-coded before it can be used.
- Therefore it takes longer to process.
- There is strong evidence to suggest that people with autism find it difficult to take in the salient features of a scene and often concentrate upon one detail. It is suggested that they are unable to distinguish between foreground and background information. This is called 'gestalt perception' (Ozonoff, 1994). This would explain the ability of people such as Stephen Wiltshire, the famous artist with autism. He can look at a scene once and then reproduce it in a drawing and it does not matter to him where he starts to draw. He may start with a tiny detail such as car wheel or fence post in the middle of the scene he had committed to memory.
- Thus changes to the gestalt can be upsetting, disorientating and frightening. Bogdashina writes that small changes to the gestalt are more upsetting than big ones because the person with autism has committed a whole scene to memory. It is true that many pupils with autism will be 'well behaved' and happy when introduced to a new classroom or taken to a new park. They may become anxious upon their second visit because they cannot accommodate subtle changes that may have occurred in the scene.
- People with autism are Monotropic, i.e.: "attention tunneled" –a strategy to avoid overload by using one channel at a time. Inside the tunnel is vivid and potent, outside is meaningless. The physical properties of objects are more salient than their functional, emotional or social significance. Oliver Sacks and Jim Sinclair write about how this

monotropism leads to limited connectivity to common culture. Abrupt change of focus is painful and traumatic.

Types of sensitivity

Hypersensitivity

Children feel overwhelmed by information from the senses and act to reduce input.

Each sense is affected

Vision can be acute- bright colours, lines of symmetry and shapes can be overwhelming.

Hearing –this is most common, children with autism will often cover their ears and seem to be sensitive to sounds that are inaudible or not noticeable to neuro-typical people. The buzzing of electric lights or music playing in another room can be unbearable.

Taste and smell-children may gag at certain tastes or smells. Remember that some food problems may be due to over sensitivity to colour or touch. Texture of food causes more trouble in my experience than taste.

Touch-many children with autism are tactile defensive, dislike being touched or touching.

They often dislike the feel of certain clothes and may refuse to wear clothes all together.

Movement-children may be sensitive to sudden changes of movement or quick change to the position of the body. They have difficulty changing direction and are poor at sports. They often dislike having their feet leave the ground.

Proprioceptive sensitivity: children are highly sensitive to where their body is in space, they may take on odd body positions.

Hypo-sensitivity

The feeling that they have not got enough information and need to seek more.

Vision-children may run their hands round something until they can tell what it is, they may stare at lights or the sun.

Hearing-these children seek sounds, they may like sirens or repeat sounds such as banging doors.

Hypotaste/smell- these children will smell, taste and chew anything they can get their hands on.

Hypotactile- Children may not react to pain and temperature. They may enjoy being squeezed or self injure in order to stimulate the sense.

Movement-These children enjoy and seek all types of movement- spinning, swinging, rocking, running, rolling etc.

Proprioceptive- these children may appear floppy and lean against furniture and walls.

It is important to remember the following:

1. The intensity with which the sensory channels work fluctuates.
2. Children will not always display the same levels of sensitivity.
3. Children do not necessarily fall into neat hypo or hyper categories. Their sensory profile may cover both categories and vary for different senses.

Over load



A busy classroom is the ideal breeding ground for sensory overload of all kinds, it can be triggered by any or all of the following:

- Transitions from one activity or area of the classroom or school.
- Noises- other pupils can be the most stressful because they are completely unpredictable.
- Displays that are not clear, unambiguous and symmetrical.
- Different foods and smells
- Moving furniture
- Changing clothes
- Unannounced visitors
- Changing routines
- Changing staff –making relationships takes longer.

Indicators of overload

The following indicators can be a sign of sensory overload.

- Pacing
- Covering ears
- Hiding or running away
- Screaming
- Rocking or spinning
- Noises
- Self injury and aggression
- Aggression towards others

Practical implications and ideas for help.

Classroom environment.

Lakeside is a generic special school and there are times when the needs of different groups within our school population can conflict with each other. For example, pupils with profound and multiple learning difficulties need a lot of stimulation and sensory input. As this document has shown, pupils with autism may struggle with this. The key to this is to plan the classroom and the timetable so that both needs can be met.

1.Vision.

- Have a sensory area that all pupils can access. Make sure that it can be partitioned from the rest of the classroom.
- Make sure that each pupil with autism has access to a quiet, uncluttered working area where they can feel safe and alone:
 - Make the environment as uncluttered as possible in the following ways:
 - Avoid furnishings and fittings that can change such as vertical and venetian blinds, patterned curtains, book shelves that cannot be covered up.
 - Avoid clutter of all kinds- boxes that are overfull, messy shelves, messy sink area and equipment on the floor.
 - Keep doorways clear, they can be extra stressful and clutter near the door will discourage pupils from entering a room.
 - Keep paper to display boards. Remove extraneous notices, pictures etc.
 - Keep walls clean and bare.
 - Think about colour as a cause of over load. Try to keep one colour as a grounding feature match tables, display board backings, chairs. It is much less demanding on the eye to have them all the same colour. Make sure all carts and drawers are the same colour.
 - Make sure display boards are clear, bordered and symmetrical,

The environment that pupils must cope with does not end with the classroom. We are collectively responsible for the whole school environment. Be aware that all these rules apply to collective areas and take responsibility for keep them tidy and autism friendly.

2.Sound

- Pupils who seem sensitive to sound can be referred by the school paediatrician for a white noise assessment. They can have ear plugs which emit a low level of white noise. The pupil can be in control of this or if they are not capable of this then adults can operate the ear plugs. The noise is similar to that heard when you place a shell to your ear. It is very effective in many cases in reducing sound related stress. See the behaviour support teacher and the school nurse for more information.
- Keep sound to a minimum. This cannot extend to the noises of pupils but extraneous sound can be dealt with:
- Keep adult chatter to an absolute minimum. Discussion about last night's TV programmes is not appropriate. It is important to monitor what you talk about in the hearing of pupils with autism. They may react strongly because they have overheard you talking about something they find stressful. For example if you casually mention the swimming pool is broken and then forget about it. The pupil with autism will be sure to remember and worry about a change in his routine. There may be a behavioural incident which results in injury and you will have no idea why it started.
- Use headphones as a matter of routine attached to any noisy computer equipment.

- Give pupils regular opportunity to come out of noisy classrooms. They can access the soft play room, the quiet learning room and the playgrounds.
- If you need a timetabled slot for a separate room, please let the behaviour support teacher know.
- Be aware that pupils will find noisy environments such as the dining hall and sports hall very difficult to deal with. Offer strong rewards for appropriate behaviour in these areas; keep the time spent in these areas to a minimum. If it helps, encourage the pupils to wear head phones. If pupils refuse to wear headphones but it is obvious it would help then work on desensitising them to the head phones by using touch to their ears and head and rewarding them for tolerating this.
- It may be necessary to help pupils to desensitise pupils from each other's noise. This can be done in the following way:

Provide photos of the pupil whose noise is hard to cope with.

Reward the pupil with autism for looking at the photos then for looking at the pupil.

Provide recordings of the noise they make using the little TES speech bubbles or big macs.

Reward the pupil for listening to the noise and then for pressing the button in order to illicit the noise.

Every time the pupil tolerates the noise in the classroom, reward them.

- Remember that for some pupils these noises will always remain painful. Decisions about class groups may have to be made in the interests of respect for pupil voice and safety.

Taste and smell

- Be aware that any perfume you may wear or if changing existing perfume can cause stress.
- Be aware that food smells and tastes can cause stress, refer to individual pen pictures to find out what pupils like and dislike.

See section on sensory integration ideas for practical suggestions regarding taste and smell.

Movement

All pupils should have access to swings, soft play, trampolines, and peanut balls.

Proprioceptive

- Use of weighted vests, blankets footwear

See sensory integration ideas.

Support through sensory integration.

The Autism Team will work with you to discuss the pupil's sensory profile and design a sensory diet.

The goal of sensory integration therapy is described as facilitating the development of the nervous system's ability to process sensory input in a more normal way (Delacato and Ayres, 1979). The idea is to provide an individual sensory diet based upon the sensory needs of each child with autism.

Delacato suggested the use of multi sensory integration which involves encouraging pupils to use more than one sense at a time. For example look and listen, rather than being single channelled. Bogdashina sounds a note of caution with this approach as she says the evidence suggests that people with autism are single channelled as a response to stress and sensory overload. Asking them to use more than one channel may increase stress. A multi sensory approach may be possible when working with activities that pupils really like. We have good results in the swimming pool when we put the music and lights on. Pupils are already relaxed and ready to use their senses in a more integrated way.

In our busy classrooms, a pupil with autism is probably already struggling with an overload of sensory input. Thus, the environment is not conducive to promoting use of more than one sense in a relaxed and calm way.

Our response to this information is three fold:

1. To structure the environment in order to reduce sensory overload.
2. To design a sensory diet of activities for each pupil with autism based upon assessment of their sensory needs through the sensory profile.
3. To design specific desensitisation activities in order to increase tolerance and raise the threshold for arousal. These activities will never be forced but introduced gently in the form of play (Fisher and Murray, 1991).

The sensory profile will define types of sensitivity. Here are a number of activity ideas for each type of sensitivity.

As discussed, activities will need to either calm or stimulate individual senses. Often, it would seem, the same activities will have the desired effect of either reducing or increasing sensory input. The aim is for pupils to be ready to learn. So these activities will need to precede and or be interspersed with academic learning. Pupils, who are not calm, cannot learn. For some pupils, basic functioning such as moving about or sitting is affected and they will need these activities to be very regular and intense in order to access daily life.

Each class now has a box of motivating activities to promote fine motor skills.

Activities:

Heavy work

These types of activities are *imperative for children who have difficulty regulating their arousal levels*. They are the crashers, the jumpers, the leg shakers, the ones that can't ever seem to sit still. Regular heavy input into their neurological systems WILL help calm them down.

The premise behind these activities is to help their bodies receive regular input into their muscles and joints in the most appropriate ways so they can get the input they crave and settle their bodies down.

You will see and hear a lot about heavy work activities. *Often these activities will include*

using weights, weighted products, jumping, bouncing, rocking, pushing, pulling, swinging and being "squished".

Whole body actions involving pushing, pulling, lifting, playing, and moving.

Carrying objects, such as...

- groceries
- backpacks
- stacking or moving chairs/books
- watering can/hose
- ANYTHING with weight to it

Wearing a weighted vest, weighted hat, or weighted shorts

Wearing wrist or ankle weights

Using a weighted lap pad or weighted blanket

Swimming with or without swim weights

Pushing or pulling objects and activities, such as...

- Toy shopping trolley
- laundry basket
- tug of war rope
- vacuum carpets
- mop/sweep floor with a mop, broom and dustpan for kids
- wrestling
- shoveling snow
- raking leaves, dirt etc. using a kid's wheelbarrow and Brio Garden Tools: rake, spade, shovel and broom
- pushing/pulling self or others on a wheelie board
- Thera-Band
- "push of war" between partners (with ball, have to cross over line)
- riding bicycles / scooters
- kids roller blades

Jumping and bouncing on/with items, such as...

- on a trampoline
- on an old mattress or soft area
- into bean bag chairs
- on a therapy ball (with adult assistance of course)
- on a pogo stick
- on a hopping ball
- horse riding
- with a skipping rope
- ankle twister jump ropes
- floor gymnastics

Wheelbarrow walk relays

Potato sac/jumping bag races

Lizard crawl (belly on floor, push self with elbows)

Climbing/hanging on things, such as...

- On jungle gym
- monkey bars
- jungle climber with swings
- hanging rings and trapeze
- "Twizzler"
- zipline/fun ride trolley
- rock walls
- outside on rocks or trees
- up ladder and/or slide
- climbing rope
- climbing/cargo nets

Body Sox (TM) or a Super Shape Changer

Walking/running/playing in the sand

"Sandwich"/ Squishing activities...

- make a child "sandwich" between floor pillows or cushions
- roll child up in mat or heavy blanket as a "hot dog"
- give child heavy blankets, weighted blankets, or sleeping bags (for children) at bedtime
- bear hugs
- firm towel dry after baths, wrap up tightly
- roll an giant gym/exercise ball on top of them while they lay on the floor

Game of Twister

Crabwalk (hands and feet on floor, belly up) games, such as...

- relays
- soccer
- volleyball (in crabwalk position kicking balloon with feet in air)

Use of hands

Working at vertical surfaces (at/above eye level), such as..

- easels
- erasing, colouring on chalkboard
- painting/drawing on paper on wall
- washing windows
- clean bath or shower
- dig garden

Resistive tools or toys, such as...

- spray bottles
- scissors to cut putty, play-dough, thick paper or cardboard
- Play Dough Factory presses and moulds
- use rolling pins to flatten cookie dough/play-dough
- colour/draw with crayon on textured surface
- hole punches
- spray nozzle on garden hose

Fidget or play with stretchy/squishy items, such as...

- Theraputty (hide and seek with coins, tug of war, cut and flatten to make cookies, roll out to make letters, etc.)
- play-dough ([Check Out Recipes For Play Dough, Silly Putty, Paints And More](#))
[The Silly Putty Store](#) and [The Crayola Store](#)
- rubber bands
- stress relief balls
- squeeze balls
- "squishies" (fill two balloons, inside each other, with flour or sand)

Resistive surfaces, such as...

- playground
- colour pictures taped over sandpaper
- use sanding block to sand wood
- brush fur

Use weighted pens, pencils or utensils

Multi-person parachute games and activities

Cooking activities, such as...

- fast stirring or whisking.
- pressing
- kneading

Etch-a-Sketch with resistive knobs (shaking with both arms to clear screen).

Dig and play in the sand

Oral Motor Activities:

Chewy foods such as...

- dried fruit
- gummi bears/worms etc. -sour
- licorice
- bagels and French bread
- fruit and seed bars
- raisins
- soft pretzels
- popcorn

Resistive sucking using items such as...

- through thin curly straws
- sports bottle with long straw
- lollipops
- popsicles
- drink milkshake with a straw
- hard sweets
- peanut butter

Blowing activities, such as:

- splatter paintings (use thin paint on paper... blow air through a straw and watch the paint move! can also use chocolate pudding thinned with milk on freezer paper)
- blow bubbles in the bath
- kazoos, whizzers, and other noise makers
- Bubbles
- Balloons

References

<http://www.sensory-processing-disorder.com/sensory-integration-activities.html>

Lawson, W. (2001) *'Understanding and working within the spectrum of autism'*. London, Jessica Kingsley.

Bogdashina, O. (2003) *'Sensory perceptual issues in autism and Asperger syndrome.'* London, Jessica Kingsley.