

PUPILS WITH AUTISM

UNIT 17

CREATING A LEARNING ENVIRONMENT FOR PUPILS ON THE AUTISTIC SPECTRUM: THE PHYSICAL ENVIRONMENT

LEARNING OUTCOMES

Trainees will know:

- Environmental elements of school and classroom design that are considered to be conducive to learning for pupils with autism, and
- Ways of adapting learning environments to make them more conducive to learning for pupils with autism

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/environment/intro

BRIEFING 1 – DESIGNING AN AUTISM-FRIENDLY SCHOOL BUILDING

Over the past decade, there has been increasing interest in the design features of autism-specific environments. A number of architects have started to develop practice which takes into account the particular needs of individuals on the autism spectrum. Although most schools will not be planning new builds, there are still helpful lessons to be learned from the work that has been done in this field.

See online resource:

www.education.gov.uk/lamb/autism/environment/autism-friendly

In his investigation with a group of teenagers with autism in Edinburgh, architect Iain Scott was able to elicit their views on many aspects of design.¹ References were made to:

- Tidiness and order
- Spaces that are 'un-confusing'
- Environmental simplicity, e.g. emptiness, bare walls and space to walk around
- Clear signs to enable confident movement from one space to another
- Geometric simplicity for example rectangles rather than more complex visual geometric forms, and
- Clear surfaces

A number of architects have reported the importance of thinking about the proximity of others and the need for space for pupils with autism. Scott also noted the need for both large spaces pupils can walk around and small, quiet spaces where pupils can be alone.

There is a suggestion that curved walls facilitate movement and that this will help to support the circulation of pupils with autism spectrum around a school.² While the long straight corridors with abrupt corners, familiar in older schools, can encourage running, curved 'circulation' spaces which offer additional options, such as somewhere to sit, encouraged interaction and less running. At Sunfield, a specialist school for pupils with autism, they noticed that their pupils responded to their new curved circulation spaces by touching the walls and following the contours as they walked.

Beaver, an architect, has described the importance of colour in contributing to the feel of an environment and acknowledges the impact of colour in calming, stimulating

¹ Scott, I (2011) Analysis of a project to design the ideal classroom undertaken by a group of children on the autism spectrum and students of architecture, *Good Autism Practice Journal*, 13, 1, 13-25

² Whitehurst, T (2006) The impact of building design on children with autistic spectrum disorders, *Good Autism Practice Journal*, 7, 1, 31-38

or even disturbing pupils with autism³ Maria Luigia Assirelli, at the Reading Conference, Designing for ASD, in 2010, described the work of GA Architects in collaboration with the University of Kingston's research project on a colour palette for autism. Their research involved architects, teachers, parents and carers of pupils on the autism spectrum as well as pupils on the spectrum aged between 15-19 years of age. Through a process of elimination, certain preferences emerged. Of the colours presented to the pupils, the following was found:

- subdued and colours mixed with grey were favoured
- a predominant preference for colours in the Blue/Green hue sectors was notable
- a balance between colourfulness and greyness was popular.

See online resource:

www.education.gov.uk/lamb/autism/environment/colour

Principles that emerged from the research indicated that:

- low arousal colours are preferable in solid blocks
- patterns should be avoided
- furnishings should be kept fairly plain, and
- patterned floors can be confusing and may increase anxiety.

The acoustics of the learning environment are important. For pupils with auditory hypersensitivity the intrusion of unnecessary levels of noise alongside low level, but persistent, sounds can be difficult. Students with autism in Scott's consultation expressed desire for 'quietness' alongside 'the desire for music and sounds'. The deployment of soundproofing systems is a solution often used in new designs.

There is some evidence to suggest that pupils with autism may be particularly provoked by fluorescent lighting. Stephen Shore, an adult with autism and a college lecturer describes the potential impact of fluorescent lighting:

Improperly understood, sensory integration dysfunction can severely impede functioning in a classroom. For example, visual sensitivity to fluorescent lights can make them appear like strobe lights to a person with autism, creating an unsuitable environment for learning. An elementary-school child in this situation may very well get out their seat to shut off this source of sensory overload that, in addition to being a distraction, may cause physical pain. I have seen the eyes of people of those with sensory sensitivities vibrate in synchrony with the 60 Hz. cycling of fluorescent lighting. The teacher, unaware of the student's condition

³ Beaver, C (2011) Designing environments for children and adults on the autism spectrum, Good Autism Practice Journal, 13, 1, 7-12

*may interpret this "out of seat" activity as an avoidance behavior. However, in reality, this behavior is an attempt to eliminate a sensory assault that interferes with functioning in class. Alternatively, a child, more severely affected by autism, who is nonverbal and less aware of the source of her sensory overload, may simply have a tantrum.*⁴

There are also reports of adverse reactions to bright lights, including sunshine, and harsh down lighting.

BRIEFING 2 – Adapting the classroom environment

Most classrooms will not have been designed and built to be autism-friendly. There are, however, a number of adaptations that teachers can make, based on the architectural principles described in Briefing 1 (above).

Visual clarity is a key priority in creating an accessible learning environment for pupils with autism. Carefully planned classrooms can create areas of visual calmness while still allowing for attractive and stimulating displays. In mainstream classrooms:

- Consider the creation of visually 'low arousal' areas where visual distraction is kept to a minimum, e.g. no displays, reduction in environmental pattern or colours
- Keep surfaces clear. Only have out what is needed for the lesson, where possible and make good use of storage systems to keep extraneous materials out of sight
- Where pupils are required to access equipment/materials for themselves, ensure these are kept in designated locations which are clearly labelled
- Consider the introduction of a quiet area, workstation or study space that can be used by pupils with autism (which may also be of benefit for other pupils at times).
- Creating 'zones' in the classroom, which are clearly identified and labelled, can help pupils with autism understand what they are expected to do in different areas of the classroom.

Teachers can consider how the space in the classroom is used, for example:

- Larger and smaller areas can be created by the positioning of furniture
- Boundary markers can be introduced so that all pupils can respect each other's space, e.g. masking tape down the centre of a shared desk to show personal space; a carpet tile or cushion to mark territory on a shared carpet space, a visual method used to measure acceptable space between pupils when waiting in line or sitting in assembly.

⁴ (http://www.autism.com/ind_my_life_with_autism.asp)

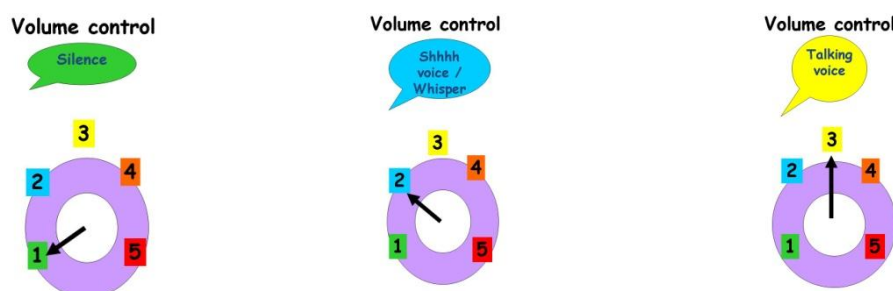
- Thinking about the importance of personal space when a pupil is supported by an adult, e.g. how close they sit; whether they touch the pupil for hand-over-hand support; where they sit – beside, opposite, at a right angle to the pupil.

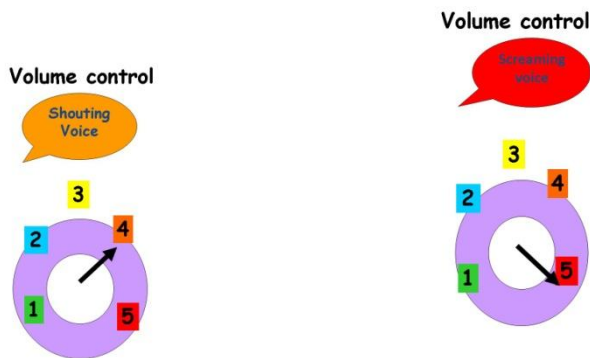
Although a school may not have curved walls, it is possible to introduce more shape and flow into a classroom by positioning tables, low-level storage cupboards and screens to create undulating pathways. These can be made more apparent by using carpet tiles to provide ‘stepping stone’ pathways or by marking them out using masking tape. If space and safety considerations allow, ‘activity’ points can be introduced into school corridors to create naturally occurring curved areas, e.g. a small book area or large bean bags for a friendship/sitting area.

Aspects of the colour scheme in a classroom can also be controlled. Display boards, for example, can be backed in a uniform colour to reduce one element of visual disturbance. Display material can be mounted on toning backing sheets which blend with the board colour rather than contrasting with it – the use of colours from the blue/green hues are likely to be more calming visually. When ordering new furniture for the classroom, colours from a calming palette chairs can be chosen for tables, screens and other equipment.

The provision of noise reduction strategies in the classroom can be helpful for some pupils. Listening posts, which use headphones, can be a natural way of providing this in the primary classroom. The introduction of alternatives to the school bell/Claxton can do a great deal to reduce stress and anxiety for those pupils who are particularly sensitive to sound. For example, some schools have introduced music as a replacement signal for lesson changeover. The introduction of visual volume systems within the class can help to reduce the sound levels when pupils are engaged in group or practical tasks. This can be presented as a rating scale (1 being very quiet/silent through to 5 which would be very loud). For any activity, the class can be given a volume level appropriate to the task. Visual feedback on the level can be given using the rating scale – or a simple visual measure of noise/volume level as illustrated below.

Figure1: Example visual volume measure





See online resource:

www.education.gov.uk/lamb/autism/environment/sound

This has been created using shapes and callouts available on any PC and can be made into a poster to display in the classroom. The teacher can point to the relevant volume level (or, preferably, ask pupils to assess what level the class is working at and whether this is the agreed level).

While it may not be possible or practical to change the lighting system in the classroom, it is helpful to consider whether it is necessary to use lights all the time. Staff, sometimes, turn lights on as a matter of habit rather than actual need. Whenever possible, natural light is better. You could provide study lamps, if allowed. Blinds at the windows can allow greater control over the brightness of sunlight in the room. Wearing peaked caps or sunglasses at break time can help those who find it difficult to manage on sunny days.

There is some concern that comprehensive adaptations to the learning environment will not prepare pupils with autism for the challenges they will face outside the school. It is likely that a delicate balance needs to be struck between adapting the environment to the extent that pupils with autism are entirely protected from the demands and challenges of daily life, unexpected events, environments and relationships and, conversely, exposing the pupil to an unmediated experience of school without such support. A very careful plan based on an assessment of a pupil's needs can guide the nature and type of support that needs to be provided.

TASK 1– ENVIRONMENTAL ADAPTATIONS

Based on your studies and further reading, devise a checklist of design features for your school. Visit one of the classrooms in your school and audit the relevant features for a pupil with autism.

Read the articles by Iain Scott⁵ and devise a way of consulting pupils with autism about the aspects of the school environment that they find helpful and any further areas of environmental support they feel they need.

Watch the video clip- “Three levels of leadership in Broadfields School”. Which levels might be involved in making environmental changes to your school and how might you go about involving them?

See this clip:

www.education.gov.uk/lamb/autism/environment/broadfields

Based on your research, design some adaptations which can be implemented and which would meet the needs of a pupil with autism who is known to you. Share your ideas with the school SENCO and discuss how you might go about implementing them.

After a term, review the environmental adaptations that have been put into place and identify areas where you feel these may need to be strengthened.

⁵Scott, I (2011) Analysis of a project to design the ideal classroom undertaken by a group of children on the autism spectrum and students of architecture, Good Autism Practice Journal, 13, 1, 13-25