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**The sensory school: working with teachers, parents and pupils to create good sensory conditions.**

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Manuscript Type:	Case Study
Keywords:	Autism, School environment, Sensory Sensitivities, Collaboration, Communities of Practice, Parents

## **Collaboratively research with autistic pupils, their teachers and parents to understand and improve the sensory environment in a range of schools.**

### **Case study report**

Authors: Professor Nicola Martin, Dr Damian Milton, Joanna Krupa, Dr Sally Brett, Kim Bulman, Danielle Callow, Fiona Copeland, Laura Cunningham, Wendy Ellis, Tina Harvey, Monika Moranska, Rebecca Roach, Seanne Wilton.

### **Abstract**

#### **Purpose**

An alliance of schools and researchers formed a collaborative community of practice in order to understand and improve the sensory school environment for pupils on the autistic spectrum. The aim was to incorporate the findings into school improvement planning.

#### **Approach**

Representatives of five special and mainstream schools in South London and a team of researchers, including an autistic researcher, formed the project group. The researchers and a named staff member from each school met regularly over the course of eighteen months. They worked together on an iterative process aimed at improving the sensory experience of the school environment for autistic pupils.

Each school completed sensory audits and observations, and was visited either once or twice by members of the research team. Parents were involved via meetings and two conferences were organised to share findings.

#### **Findings**

Useful outcomes included: developing and sharing of good practice between schools; opportunities for parents of autistic pupils to discuss their concerns, particularly with an autistic adult who is also the parent of an autistic child; exploration of creative ways to achieve pupil involvement. Participants noted that good autistic informed autism practice could potentially benefit all pupils.

A dynamic resource pack was produced for the schools to access and build upon. Plans are in place to revisit the initiative in twelve months' time in order to ascertain whether there have been long term benefits.

#### **Originality / value**

Projects building communities of practice involving autistic people as core team members are rare. Feedback from those involved in the project showed that working collaboratively in this way to be a key aspect of shared learning. Paying autistic experts continues to be an issue as many autistic researchers experience ongoing barriers to employment.

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3 Key words: Autism. School environment. Sensory sensitivities. Collaboration.  
4 Communities of Practice. Partnership. Parents.  
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## 6 **Purpose**

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8 Challenges can be created for autistic pupils by the sensory environment of the  
9 school. (Ashburner et al 2006, Howe and Stagg 2016, Lane et al 2012, Martin and  
10 Milton 2017). It can feel too loud, too noisy, too fast paced, too smelly and too  
11 confusing. Pupils may therefore become overwhelmed and react accordingly either  
12 by becoming quite withdrawn (shut down) or rather more expressive about their  
13 feelings. (Milton 2017). The latter condition, often referred to as a meltdown, can  
14 attract the 'challenging behaviour' label. Authors of this paper prefer the expression  
15 'indicators of distress' and recognise that the term 'challenging behaviour' can be  
16 used pejoratively in relation to ways in which an autistic pupil may respond to  
17 situations which they find challenging such as a sensory environment which is  
18 overwhelming (Martin and Milton 2017). Problematizing the term 'challenging  
19 behaviour' is also a feature of research by Orsati, and Causton-Theoharis (2013).  
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25 Sensory processing differences in autism were incorporated into autism diagnostic  
26 criteria for the first time in the most recent edition of Diagnostic and Statistical  
27 Manual of Mental Disorders (DSM-V, 2013). Sound, sight, smell, touch and taste are  
28 not the only sensory modalities. Perception of body position, coordination, motor-  
29 planning, balance and interpreting pain, hunger, thirst or temperature may be part of  
30 the autistic sensory world too. (Bogdoshina 2016, Conson et al 2016), Dyspraxia is  
31 common within the autistic population (Cacola et al 2017). Sensory overload can  
32 initiate and exacerbate stress and anxiety. (Neil et al 2016, Milton 2017). If an  
33 autistic person is in a state of 'meltdown' or 'shutdown' it is likely that sensory  
34 overload may be a factor. It is necessary to understand that the triggering conditions  
35 could involve a complex interaction between a range of sensory modalities and  
36 environmental conditions.  
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41 Building awareness of the sensory experiences of autistic people in order to support  
42 autistic pupils in school effectively is essential in order to intervene with  
43 understanding. Labelling a behaviour as challenging without getting to the route of its  
44 cause can lead to unhelpful practices. Individuality is key as autistic people will not  
45 all experience the sensory world in the same way. Some talk about difficulty  
46 integrating sensory information and/or refer to feeling overloaded and panicky  
47 (Martin and Milton, 2017). 'Synaesthesia' in which sensory information becomes  
48 hard to interpret has been described by autistic authors such as Tammet (2007).  
49 'Everyday experiences' can become highly stressful and anxiety-raising for some  
50 autistic people whose senses become overwhelmed in their struggle to deal with an  
51 excess of information (Milton 2017).  
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56 In this project an alliance of schools and researchers formed a collaborative  
57 community of practice (Wenger, 1998; Milton, 2017) in order to understand and  
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3 improve the sensory school environment for pupils on the autistic spectrum. Learning  
4 from the project was to be incorporated into school improvement planning.  
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## 8 **Approach**

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10 Researchers from London South Bank University (LSBU) were approached by an  
11 alliance of schools to support a school-based research project. Funded by the  
12 alliance the focus was on gaining a better understanding of the sensory environment  
13 of the participating schools as experienced by autistic pupils. The findings were to be  
14 used to make evidence based environmental improvements, specifically for autistic  
15 pupils. Representatives from each of five schools within the alliance formed a  
16 research group with the Critical Autism/Disability Studies Research Group (CADS)  
17 from LSBU. Project participants met on a termly basis for an academic year. After  
18 completing a sensory audit (Autism Education Trust 2012) which was introduced in  
19 the initial meeting, each setting chose a particular area of interest on which to  
20 concentrate. Clearly the task of looking at every facet of the sensory experience of  
21 all of the autistic pupils in each of the settings would be impossible within the  
22 limitations of the project. The group felt that sharing knowledge with each other  
23 through the building of a collaborative community of practice (Holmes. and Meyerhoff  
24 1999, Wallerstein and Duran., 2010, Wenger, 1998,) would be the most practical  
25 way forward in making improvements to the pupil experience.  
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29 After the initial meeting the researchers negotiated with the schools and mutual  
30 agreement was reached about the approach to the task. Teachers and researchers  
31 observed in situ and discussed particular situations including playground activities,  
32 responses to noise and visual clutter and food sensitivities. Various initiatives were  
33 tried out and evaluated through discussion with the research group based on  
34 observations of how pupils responded. These included the use of Clever Classroom  
35 techniques (Barrett et al., 2015), visual timetables Humphrey and Parkinson ( 2006),  
36 ear defenders, sensory rooms, quiet play spaces and techniques such as Intensive  
37 Interaction (Caldwell, 2014) and a low-arousal approach (Martin and Milton, 2017).  
38 Experiences were shared and reflected upon at research group meetings and on  
39 researcher visits to the schools. In addition, two conferences were organised to  
40 develop an understanding of autism amongst the workforce and parents' events  
41 were arranged which had the spin off benefit of giving mums and dads the  
42 opportunity to talk to each other and to ask an autistic researcher very direct  
43 questions. Advice was sought from a doctoral researcher at LSBU about pupil  
44 involvement in creative activities designed to enable pupils to input into the project.  
45 (Brett 2016). Findings were translated into a written report, conference  
46 presentations, staff development activities and a useful dynamic resource pack for  
47 each of the schools. The resource pack was developed, with a view to it being  
48 updated via the ongoing addition of new materials. Sustainability of the community of  
49 practice will also be evaluated in twelve months' time.  
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3 This piece of work does not claim the merit of a large-scale project with a rigorous  
4 methodology. It was more of an experiment in getting together school staff, who  
5 were not experienced researchers, and finding a way to work together in order to  
6 explore sensory aspects of school experience for autistic pupils. The aim of making  
7 the environment more autism friendly through a shared iterative process was central  
8 for all participants. University researchers with expertise in the field of autism were  
9 there to support the process, and worked closely with teachers from five schools  
10 from the Teaching Alliance. These included two special schools, and three  
11 'mainstream' schools, one of which had a specific autism provision. Participating  
12 special schools had both primary and secondary provision; the others were all  
13 primary schools. The project started with an initial meeting with school staff near the  
14 start of the academic year, and this report was written eighteen months later. In  
15 discussion with the group it was agreed that sensory audits (Autism Education Trust,  
16 2012) would be completed by teachers to highlight awareness of why sensory  
17 concerns might be an issue. Following discussion of sensory audits, a series of  
18 school visits were planned in order for the researchers to observe particular  
19 scenarios and then discuss their findings with the school staff. Findings were  
20 reported back to the research group and points for good practice were shared. A  
21 mid-term conference for teachers was organised and evaluated six months into the  
22 project and a second conference is planned. Parent activities were built in and  
23 evaluated. A resource pack was developed for schools and is an ongoing project to  
24 which information can be added.

## 35 **Activities and Findings**

### 36 **Conferences**

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38 A large-scale interim conference was held at the midpoint of the research and school  
39 staff and parents were invited to attend. Speakers included the project researchers  
40 and others who had been identified as having useful insights to share. Speakers  
41 included an occupational therapist with an understanding of sensory issues and  
42 autism and a practitioner with expertise in Clever Classrooms (Barrett et al., 2015).  
43 Feedback was positive and delegates particularly commented on the benefit of  
44 having the opportunity to learn from insights directly from an autistic researcher with  
45 a PhD in autism who also had experience of parenting an autistic child. The second  
46 conference has yet to take place at the time of writing. It will take the form of a report  
47 back on the findings of the research which are outlined in this paper and a look  
48 forward to ensure the sustainability of the project. Feedback from the conference will  
49 also inform the training programmes of the teaching schools.

### 56 **Pupil involvement**

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58 Throughout all of the research meetings the discussion was punctuated by the  
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3 ongoing refrain that it is necessary to see the issues under discussion from the  
4 perspective of the pupils affected by them. For those who communicate effectively  
5 verbally it was easy enough just to ask them, for example about their experiences of  
6 going out in the playground. For others parental insights were clearly useful but only  
7 part of the story. Fortunately, LSBU's CADS research group includes a doctoral  
8 student who was completing a thesis at the time about accessing the authentic  
9 voices of pupils who do not communicate easily via verbal means alone (Brett 2016).  
10 Dr Sally Brett's research confirms the premise that pupils' voices need to be  
11 acknowledged to be frequently muddled, ambiguous, and contradictory and bound by  
12 context and complex interactions. Nevertheless, the findings generated rich data that  
13 unequivocally demonstrates that unconventional voices have a great deal to say and  
14 should not be excluded from participation or assumed to be inconsequential.  
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20 At the time of writing this paper a pupil-focussed creative event is being planned,  
21 based on Sally Brett's work, and designed to give pupils the opportunity of  
22 expressing their ideas about what they like and do not like about their school. Dr  
23 Brett utilises creative methods such as getting students to draw their impressions of  
24 situations and then describe in whatever way they are able the meaning of their  
25 drawings. Without putting words into the mouths of the children, the researchers aim  
26 to gain some understanding of the way pupils perceive their school in relation to its  
27 smells, sights, and sounds and so on using forms of supported communication  
28 appropriate to the individual. These are likely to rely quite heavily on the use of  
29 images. Brett's work involving creating images with children to enable them to  
30 express themselves will be key in the next phase. We anticipate reporting on this  
31 aspect of the project in a subsequent paper.  
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### 39 **Parent events**

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41 Parents attended the interim conference and had an additional opportunity to meet  
42 with the autistic researcher from the LSBU team who could also bring to the table the  
43 experience of parenting a teenager who is on the spectrum. The feedback received  
44 from mums and dads was overwhelmingly positive, many commenting that they had  
45 not actually spoken to an autistic, articulate, well-informed adult before. The insights  
46 arising from such an insider perspective were felt to be extremely useful and  
47 illuminating by parents who also commented that they felt able to ask all sorts of  
48 questions and receive very honest answers. Questions ranged beyond a focus on  
49 sensory concerns into broader issues focussed particularly around their hopes and  
50 concerns for the future. Interacting with a successful autistic academic was  
51 experienced by parents as reassuring. They particularly liked the fact that the autistic  
52 researcher was very positive about autism as a neurological difference and practical  
53 about ways to recognise and address barriers. Parents requested further workshops  
54 focussing on topics such as sleep and diet.  
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3 As well as being enthusiastic about meeting with the LSBU autistic researcher,  
4 parents also loved talking to each other. Their children are not all in the same school,  
5 and even some of the parents of children in the same school did not know each  
6 other. School transport home reduces incidental opportunities for playground  
7 meetings between parents so opportunities for getting together need to be carefully  
8 orchestrated. They also have to take into account practicalities such as timing and  
9 childcare. Most parents agreed that daytime meetings, when their sons and  
10 daughters are in school, would be easier in terms of childcare, although for others  
11 time off work was a problem. The idea of a social event, with the possibility of  
12 including the children, was suggested. Parallel activities in different rooms, such as a  
13 parent workshop and a separate facilitated pupil activity, might get over the hurdles  
14 of childcare and taking time off work. It may be that by introducing parents from  
15 different schools to each other a support network could grow organically. Providing  
16 the opportunity and stepping back can be effective. It is not necessarily the  
17 responsibility of the schools to grow the parental support network although the  
18 possibility of offering space for meetings was discussed and is entirely feasible.  
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### 27 **Involvement of autistic researcher**

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29 The value of having an autistic researcher on the project has already been  
30 articulated, particularly in relation to the way parents responded. While the autistic  
31 researcher was paid for this project they are not a salaried LSBU member of staff. As  
32 is frequently the case, the issue of who pays for the time and expertise of an autistic  
33 expert not in full time employment raises its head. (Martin et al 2018). CADS at  
34 LSBU is totally committed to the authentic involvement of autistic researchers and  
35 includes this principle within funding bids as well as providing opportunities for  
36 autistic academics to work together via The Participatory Autism Research Collective  
37 (PARC, 2018). If the money can be found there could certainly be further ongoing  
38 opportunities for parents to learn from autistic adults.  
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### 45 **Ongoing staff training**

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47 Staff working outside special school settings in particular felt that refreshing the  
48 autism awareness of 'mainstream' staff was essential, although all staff agreed that  
49 ongoing training and development was important for everybody. One teacher  
50 commented that at their mainstream school, staff sometimes expressed concerns  
51 about the behaviour of some autistic pupils who might for example make  
52 'unnecessary noises, be picky eaters or flap their hands for no reason'. The teacher  
53 felt worried that sometimes these observations were followed by suggestions that  
54 children needed to be in a special school setting or an inclusion unit. It was felt by  
55 the researchers that helping all staff to develop a greater awareness of why autistic  
56 pupils might be doing certain things would be the most useful approach. Any sort of  
57 'intervention' without understanding is likely to be ineffective and enabling staff to  
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3 better understand their autistic pupils would be the aim of staff development activities  
4 (Milton and Martin, 2017). Again the importance of insider perspective was  
5 highlighted, i.e. if you want to know why an autistic person does x or y, a good  
6 starting point would be to ask them: (See: Chown, 2017, Murray et al., 2005, Milton,  
7 2017, Sainsbury, 2000, Sinclair, 1993, Williams, 1996 and others). If the individual  
8 does not communicate verbally very easily a more nuanced approach to asking them  
9 may be required (Brett, 2016). Autistic experts with lived experience of autism are  
10 also be well placed to provide some useful ideas (Milton and Martin, 2017).

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14 The group talked about de-emphasising the 'special' aspect of education in staff  
15 development and emphasising the shared responsibility focus. The resource pack  
16 includes the SEND review guide (DFE) which provides an opportunity for schools to  
17 self-evaluate, and also to request an independent review if required. This could  
18 potentially provide a useful platform for bespoke training built on self-assessment  
19 and embedded into school improvement planning. Principles of Universal Design for  
20 learning (UDL) (Meyer et al 2014, Milton et al 2016) are also covered within the  
21 resource pack with the aim of de-emphasising 'special' and focussing on embedded  
22 good practice to create schools which cater effectively for all members of their  
23 community.  
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### 30 **Case studies from individual schools revealing common themes**

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32 Feedback from the schools came in the form of case studies focusing on a particular  
33 aspect of the sensory environment, looking at the result of support strategies and  
34 sharing reflections and knowledge with the rest of the research group. It was noted  
35 by the researchers, however, that the plethora of sensory audit and other tools sent  
36 to the teachers at the beginning of the project could have been discussed and  
37 analysed in more detail, and the time constraints of the project meant that  
38 information recorded in these documents was not utilised to its full potential. The  
39 teachers did however value the opportunity to remind themselves of the importance  
40 of analysing the school's sensory environment, and trying to look at it from an autistic  
41 person's point of view. With more resources, a more methodical consideration of the  
42 information collected could have added to the project's findings; for example, at the  
43 beginning of the project teachers suggested that the impact of smell, such as in  
44 dining areas, had probably been under-examined.  
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50 The researchers also acknowledge that the following are case studies in a fairly  
51 basic sense. Although it could be argued that in some of these case studies, there is  
52 a certain amount of subjectivity in how the results of the strategy are reported, the  
53 teachers are able to observe the outcomes in a more natural setting. In being familiar  
54 with the pupils, the teachers are well-placed to determine how effective a strategy  
55 had been over time (Cohen et al, 2011).  
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### *Case study 1*

Lunchtime provision was the focus of one of the research visits to a 'mainstream' primary school in which a small 'clubhouse' had been set up for children, including autistic children, who did not want to use the playground during breaks. This was a resource which had been developed prior to the school becoming involved in the project, as a result of staff expressing concerns about apparent difficulties at breaktimes, and which was reviewed in the context of the project. The teacher observed that this initiative worked better with a clear structure, including a visual timetable to show children which member of staff would be there, and what the focus activity would be. Children also had an element of free choice but the teacher noticed that choosing was not always easy for some of them and could be quite anxiety provoking. Originally the 'clubhouse' idea had been attempted in a much larger space and had not worked well so the organiser moved the facility to a smaller room which worked better. Size may not have been the only factor but the decision to decamp elsewhere based on observing responses is illustrative of the way in which the organiser stepped back, observed and implemented environmental change based on pupil reaction. The teacher acknowledged that at first it had been difficult to get children to start coming, but that those who attended soon appeared to look forward to lunchtime in 'The Clubhouse'. During a school visit the researcher observed a pupil talking about seeing a friend at 'The Club.' Concerns about segregated social provision and 'labelling' were openly debated in research meetings, during which the organiser explained that the Club was not just open to autistic children, and also that children attending could also bring a friend. A common theme seems to be emerging from the various vignettes from different settings, i.e. that good autism practice is good practice which has potential benefits beyond the autistic community. Some children prefer not to play outside in the playground and this school appears to be offering an effective alternative which does not stigmatise by requiring the child to have a label in order to gain entry. The research provided an opportunity for other schools to think about ways in which they could sensitively approach the idea of providing different sorts of play spaces to cater for all pupils, some of whom need something a bit quieter and more contained.

### *Case study 2*

One teacher gave an example of how advice from the interim conference has made a significant impact on a pupil's learning in the small (around 8 pupils) autism base in which they work, which is attached to a 'mainstream' primary school. The child has a particular interest in clocks, but initially it was felt by some staff that it would be disruptive to his learning if he had constant access to his clock. Following the conference however, where this concern was discussed, the pupil now has access to his clock at all times, and this appears to have improved his learning experience: he is more relaxed, appears able to focus more, communicates and interacts more with staff and peers, and his parents have also commented on the positive difference at

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3 home. The pupil uses a 'now and then' visual aid, alongside a visual timetable and  
4 visual instruction cards, to help him with the structure of the school day. Going with  
5 rather than against the interests of an autistic person can generally be seen as good  
6 autism practice (Milton and Martin, 2017).  
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### 10 11 *Case study 3*

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13 'Before and after' photos of classrooms were shared by one teacher in a  
14 'mainstream' primary school who had implemented the Clever Classrooms (Barrett  
15 et al, 2015) approach in a structured way. The Clever Classrooms approach looks at  
16 how the physical design of the classroom can impact on and improve the learning  
17 experience. As the school SENCo, the teacher had already been researching ways  
18 in which the learning environment can impact on students' learning, and following the  
19 completion of the sensory audit, decided to focus on the classroom and how better  
20 the school could support pupils with ASD through improved environmental changes  
21 and better consideration of how a child with sensory processing difficulties may view  
22 a mainstream classroom. Aspects of Clever Classrooms found to be effective  
23 included painting the walls in calm colours, and keeping displays simple and not too  
24 'busy' while ensuring that some wall space was left blank to reduce visual clutter.  
25 The results were positive for all pupils, indicating again that very often good autism  
26 practice is good practice for all pupils. Pupils have commented on how calming the  
27 classrooms are, and how it is now easier to find things with trays etc being labelled.  
28 Displays have been taken down from windows, letting in more natural light, thus  
29 reducing the need for bright artificial lighting. Visual timetables, also introduced as a  
30 direct result of the project were deemed to have had a similar systemic effect. The  
31 senior leadership team and the caretaker in the setting in which these initiatives were  
32 introduced were fully supportive, especially about the practicalities of finding ways to  
33 display visual material to best effect. Teachers were also positive about their  
34 workload being reduced as a result of consistency and clarity in displays. Pupils  
35 appear to be less distracted by visual and sensory stimuli by having one consistent  
36 colour used in the classroom for displays. The school is now considering how to use  
37 the consistency of this approach as a tool to help pupils transitioning into new year  
38 groups across the school. Within the resource pack an article on Universal Design  
39 for Learning (Milton and Martin, 2017) illustrates the point that improving the  
40 environment for autistic children has wider benefits, and this has been reflected in  
41 positive feedback from all pupils, as well as from external parties such as the  
42 school's educational psychologist.  
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### 54 55 *Case Study 4*

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57 A special school within the alliance highlighted the issue of sensitivities around food  
58 and mealtimes, with many pupils having a restricted diet. They implemented their  
59 own pilot project, using the Sequential Oral Sensory (SOS) approach (Toomey,  
60

2007). The SOS approach assesses the child as a whole taking into account their motor skills, oral skills, learning, behaviour and cognitive level of the child, in conjunction with the environment and nutrition. Their occupational therapist had already been trained in the approach, and other staff members also received training to work with a group of four pupils who had been identified as having particular sensory needs in this area, to assess whether the SOS approach might be effective. The programme introduced a structured approach to desensitising pupils to different types of food through play and exploration, and included a training session with their families so that the principles of the strategy could be integrated into the home environment alongside the work in school. At the time of writing, developments in the group included being able to interact with a wider variety of foods, being able to tolerate being near to food, and some progress in tasting a wider range of foods. The school plans to integrate the principles of the programme into the dining room for whole school support; run training for all parents of pupils in the Early Years Foundation Stage on the principles of the SOS Approach; and run a SOS Approach group in each Key Stage.

### *Case study 5*

One special school reflected on the introduction of 'brain breaks' to see whether they could positively affect pupils' focus and concentration in lessons, which had been identified by staff as an issue which often affected both individual pupils and consequently the whole class. The new school occupational therapist conducted training on brain/sensory/movement breaks, with the aim of enabling children to refocus and de-stress. The researcher observed the effective use of these 'brain breaks', which the teacher had adapted slightly from the OT's initial suggestion of every 20 minutes, and which were being used at the natural end of a session, with the choice of activity being given to a pupil. The teacher has reported improvement in the teacher-pupil relationship, where they can take part in 'fun' exercise together, and observed that children appeared more motivated and eager to take part in classroom sessions, knowing that there would be a movement break at the end.

### *Further discussion points*

A common theme which emerged from the ideas shared between project participants was that various solutions which staff hit upon to help autistic pupils with sensory sensitivities had the potential to be useful to everyone else too. School staff commented on becoming more aware of the potential impact of sensory processing differences upon social interactions for autistic pupils (Caldwell, 2014). This realisation challenges the idea of challenging behaviour, a term which became increasingly unpopular with school staff as the project progressed. Just as the parents benefited from opportunities to interact with other parents, the schools also learnt from each other throughout the project, both at the conferences and through discussions at the regular project meetings. Training opportunities for staff from other

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3 schools were highlighted by the teaching school and plans were being made to take  
4 this forward when the project ended. Staff were also planning ongoing visits to each  
5 other's schools with the aim of learning from each other and incorporating good  
6 practice from other settings into their own environment. Taking the ambiguity out of  
7 what might be on the menu at lunchtime, developing visual timetables to make life  
8 more predictable, facilitating quiet playtimes and avoiding over busy displays, for  
9 example all seemed to calm things down generally. Universal Design for learning  
10 (UDL), (Meyer et al 2014, and Milton et al 2016) operates on the principle that  
11 thoughtful design which considers everyone's needs reduces the requirement for  
12 bespoke individual adjustments.  
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17 Various frameworks which have incorporated the philosophy of UDL resonated with  
18 the project team. REAL principles (reliability, empathy, anticipation and logic) for  
19 example can help things to run smoothly for everyone (Hastwell et al 2012). No one  
20 thrives in chaos and reliability fosters a sense of security. Empathising with pupils  
21 about how they might be experiencing aspects of the school environment will help  
22 school staff to anticipate what is likely to work well and situations which should be  
23 avoided, such as unpredictable changes and sensory clutter. Logical communication  
24 increases understanding and feelings of safety and potentially reduces a sense of  
25 overload. Techniques, such as the use of visual timetables enhance clarity for  
26 everyone.  
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31 SPELL is an approach advocated by The National Autistic Society and is similar to  
32 REAL. SPELL stands for Structure, Positive (approaches and expectations),  
33 Empathy, Low arousal, Links. Knowing the usual order of events in a day increases  
34 predictability and makes it easier to be more flexible within a framework. Teachers  
35 could employ a range of strategies to make things more predictable, such as a visual  
36 timetable which makes it clear to the pupils what is happening throughout the school  
37 day. Positive expectations based on understanding the pupil and their strengths and  
38 interests enhance motivation. SPELL advocates that links between learning  
39 experiences are made explicit rather than implied and understanding is checked.  
40 Calm and structure are enhanced to reduce anxiety and attention is paid to sensory  
41 overload. The SPELL approach has much in common with Clever Classrooms,  
42 REAL and TEACCH (Treatment and Education of Autistic and related  
43 Communication Handicapped children) (Mesibov et al 2005). A TEACCH classroom  
44 would include visual approaches to routine as well as areas for quiet focus rather  
45 than having every wall covered in bright displays. Picture Exchange Communication  
46 System (PECS) (Bondy and Frost 2011) can be usefully incorporated into a  
47 TEACCH classroom. Visual timetables to make routines predictable, and other visual  
48 prompts, can help autistic pupils and, for example, some for who English is a second  
49 language. Approaches discussed here owe much to Maslow's ideas about there  
50 being a hierarchy of needs (Maslow, 1943) and are based on the same assumption  
51 that learning is only possible if pupils feel a sense of safety and belonging.  
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## Resource Pack

The resource pack is a dynamic document which is available in electronic and paper-based forms. Having the opportunity to browse through a folder over coffee in the staffroom was felt to be important by the team because of the potential for any member of staff to happen upon something interesting without trying too hard. Copyright rules were adhered to and full references of the content appear at the end of this paper. It may be that a named member of school staff in each setting takes responsibility for keeping the folder up to date and LSBU CADS has made a commitment to continue to send useful information through to the schools.

## Summary and next steps

Interestingly the understanding of sensory issues which emerged from this project encompassed all of the senses. Staff also focussed on how sensory perceptions might impact upon communication and interactions. Terms like 'challenging behaviour' were robustly discussed by participants who were keenly aware that sometimes sensory overload factors had a real impact on the way the pupil was interacting with their environment. Ideas about support strategies which may help autistic pupils with sensory concerns ultimately focussed almost exclusively on environmental change which was something that the researchers found very refreshing. The solutions which school staff came up with all had the virtues of being practical and beneficial not only to children on the spectrum but also to others who might find the school environment challenging. Principles underpinning Universal Design for Learning (UDL) were appreciated by school staff who readily embraced the idea of, wherever possible, avoiding 'special' in favour of embedded universal solutions which could benefit all pupils. Autistic expertise and pupil and parent voice were valued within the project and the idea of sustainability was built in from the outset.

The project team intend to consider ways in which the findings can be embedded into future development plans for mainstream and special schools within the alliance. Aiming to continue to work collaboratively in the sharing of good practice, further research funding is being sought around school-led evidence based school improvement planning, focussing on embedding principles of inclusive practice within school development plans. School staff have decided to host at least two workshops each year to enable parents to continue to meet each other and develop their support networks.

A key message to come out of the research is that every teacher is a teacher of pupils with special educational needs, including autism. Therefore, opportunities to develop the sort of understandings which emerge from a school based research project such as this one are relevant to every teacher.



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