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

Journal:	<i>Advances in Autism</i>
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Manuscript Type:	Case Study
Keywords:	Autism, School environment, Sensory Sensitivities, Collaboration, Communities of Practice, Parents

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3 **Collaboratively research with autistic pupils, their teachers and parents to**
4 **understand and improve the sensory environment in a range of schools.**
5

6 **Case study report**
7

8 Authors: Professor Nicola Martin, Dr Damian Milton, Joanna Krupa, Dr Sally Brett,
9 Kim Bulman, Danielle Callow, Fiona Copeland, Laura Cunningham, Wendy Ellis,
10 Tina Harvey, Monika Moranska, Rebecca Roach, Seanne Wilton.
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12

13 **Abstract**
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15 **Purpose**
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17 An alliance of schools and researchers formed a collaborative community of practice
18 in order to understand and improve the sensory school environment for pupils on the
19 autistic spectrum. The aim was to incorporate the findings into school improvement
20 planning.
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22

23 **Approach**
24

25 Representatives of five special and mainstream schools in South London and a team
26 of researchers, including an autistic researcher, formed the project group. The
27 researchers and a named staff member from each school met regularly over the
28 course of eighteen months. They worked together on an iterative process aimed at
29 improving the sensory experience of the school environment for autistic pupils.
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32 Each school completed sensory audits and observations, and was visited either once
33 or twice by members of the research team. Parents were involved via meetings and
34 two conferences were organised to share findings.
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37 **Findings**
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39 Useful outcomes included: developing and sharing of good practice between
40 schools; opportunities for parents of autistic pupils to discuss their concerns,
41 particularly with an autistic adult who is also the parent of an autistic child;
42 exploration of creative ways to achieve pupil involvement. Participants noted that
43 good autistic informed autism practice could potentially benefit all pupils.
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46 A dynamic resource pack was produced for the schools to access and build upon.
47 Plans are in place to revisit the initiative in twelve months' time in order to ascertain
48 whether there have been long term benefits.
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51 **Originality / value**
52

53 Projects building communities of practice involving autistic people as core team
54 members are rare. Feedback from those involved in the project showed that working
55 collaboratively in this way to be a key aspect of shared learning. Paying autistic
56 experts continues to be an issue as many autistic researchers experience ongoing
57 barriers to employment.
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3 Key words: Autism. School environment. Sensory sensitivities. Collaboration.
4 Communities of Practice. Partnership. Parents.
5

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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22
23 Sensory processing differences in autism were incorporated into autism diagnostic
24 criteria for the first time in the most recent edition of Diagnostic and Statistical
25 Manual of Mental Disorders (DSM-V, 2013). Sound, sight, smell, touch and taste are
26 not the only sensory modalities. Perception of body position, coordination, motor-
27 planning, balance and interpreting pain, hunger, thirst or temperature may be part of
28 the autistic sensory world too. (Bogdoshina 2016, Conson et al 2016), Dyspraxia is
29 common within the autistic population (Cacola et al 2017). Sensory overload can
30 initiate and exacerbate stress and anxiety. (Neil et al 2016, Milton 2017). If an
31 autistic person is in a state of 'meltdown' or 'shutdown' it is likely that sensory
32 overload may be a factor. It is necessary to understand that the triggering conditions
33 could involve a complex interaction between a range of sensory modalities and
34 environmental conditions.
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38 Building awareness of the sensory experiences of autistic people in order to support
39 autistic pupils in school effectively is essential in order to intervene with
40 understanding. Labelling a behaviour as challenging without getting to the route of its
41 cause can lead to unhelpful practices. Individuality is key as autistic people will not
42 all experience the sensory world in the same way. Some talk about difficulty
43 integrating sensory information and/or refer to feeling overloaded and panicky
44 (Martin and Milton, 2017). 'Synaesthesia' in which sensory information becomes
45 hard to interpret has been described by autistic authors such as Tammet (2007).
46 'Everyday experiences' can become highly stressful and anxiety-raising for some
47 autistic people whose senses become overwhelmed in their struggle to deal with an
48 excess of information (Milton 2017).
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52 In this project an alliance of schools and researchers formed a collaborative
53 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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28 After the initial meeting the researchers negotiated with the schools and mutual
29 agreement was reached about the approach to the task. Teachers and researchers
30 observed in situ and discussed particular situations including playground activities,
31 responses to noise and visual clutter and food sensitivities. Various initiatives were
32 tried out and evaluated through discussion with the research group based on
33 observations of how pupils responded. These included the use of Clever Classroom
34 techniques (Barrett et al., 2015), visual timetables Humphrey and Parkinson (2006),
35 ear defenders, sensory rooms, quiet play spaces and techniques such as Intensive
36 Interaction (Caldwell, 2014) and a low-arousal approach (Martin and Milton, 2017).
37 Experiences were shared and reflected upon at research group meetings and on
38 researcher visits to the schools. In addition, two conferences were organised to
39 develop an understanding of autism amongst the workforce and parents' events
40 were arranged which had the spin off benefit of giving mums and dads the
41 opportunity to talk to each other and to ask an autistic researcher very direct
42 questions. Advice was sought from a doctoral researcher at LSBU about pupil
43 involvement in creative activities designed to enable pupils to input into the project.
44 (Brett 2016). Findings were translated into a written report, conference
45 presentations, staff development activities and a useful dynamic resource pack for
46 each of the schools. The resource pack was developed, with a view to it being
47 updated via the ongoing addition of new materials. Sustainability of the community of
48 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.

57 **Pupil involvement**

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59 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,
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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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