

Special Children

Meeting Children's Additional Educational Needs

- Taking the fear out of maths
- Gaming develops vital life skills
- Pathway to employment for students with SEN
- Supporting pupils with pathological demand avoidance

A photograph of a classroom where several students in school uniforms are engaged in a hands-on activity. In the foreground, a boy is holding a thin wooden stick. Other students are looking on with interest. A teacher or adult is visible in the background, also in a suit. The setting appears to be a practical or science lesson.

Putting oracy first

Developing learning through the power of talk

PULL-OUT RESOURCES

Strategies and protocols to foster debate and discussion



The National
Autistic Society

At school I don't feel I have to be something I'm not. I used to find it scary sometimes. Now I can relax enough to be myself and that's a great feeling.

Christopher, student on the autism spectrum

Sign up for free resources to help you support students on the autism spectrum at www.autism.org.uk/myworld

Step into

MyWorld



Wellbeing

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In an open letter to Theresa May, the charity YoungMinds has urged the prime minister to redress the ‘fundamentally unbalanced’ education system and give wellbeing equal importance to academic achievement.

These sentiments are echoed by both teachers and parents. According to a survey conducted by the charity, 82% of teachers agreed that the focus on exams has become disproportionate, while a separate survey showed that 92% of parents felt schools should support the mental health of students, and three-quarters would choose a school that their child was happy in, regardless of its results.

Putting children’s emotional wellbeing above all else is fundamental to the ethos of the first school profiled on pages 29-31. Wellbeing is also a priority at School 21 (pages 21-24), an innovative all-through free school which seeks to develop articulate, confident, well-balanced students who will be successful in life.

Finally, in *Talking point* (page 52), an assistant headteacher explains how having unlimited access to a counsellor through the free online service of Kooth is helping her students to cope better with the pressures of teenage life.

Maths mastery

The south Asian ‘mastery’ approach to teaching maths is gaining ground in our schools. It already forms a key part of the work of the maths hubs programme, and in July 2016 the government committed £41 million spread over four years to fund its implementation in 8,000 primary schools. Now HarperCollins is planning to publish English translations of dozens of textbooks used in Shanghai’s primary schools thanks to a deal with Shanghai Century Publishing Group. Clearly maths mastery is here to stay.

One person who is an enthusiastic supporter of the approach is dyslexia and dyscalculia specialist Judy Hornigold. Read her article on pages 32-33 to find out why she believes it develops a much deeper understanding of the subject and why it is particularly well suited for dyscalculic learners.

Employability skills

Verbal communication and teamwork, the ability to process and analyse information, and the facility to plan and organise work are top of the list of attributes employers look for in job candidates. This was the conclusion

of recent report by the National Association of Colleges and Employers in the US and it is reflected in numerous studies over here.

For young people with severe learning difficulties, these skills can be difficult to acquire and limit their opportunities for the future. Read the article on pages 12-15 to find out how coding their own games has supported children with a wide range of needs to gain confidence, develop problem-solving skills, communicate better and work together as a team.

Such children are still likely to face innumerable barriers when the time comes to enter the workplace, and the employment statistics for people with disabilities remain shockingly low. The supported internships scheme was created to address this. We profiled two case studies soon after it was first trialled in 2012. On pages 16-19, Karen Russell Graham returns to the theme to find out how successful the scheme is five years on.

Sensory learning

Respected educationalist Ken Robinson is on a campaign to get children to spend less time in front of their screens and more time playing outdoors. ‘Allow a child to be free outside with no structure and you will marvel at what they can achieve. Play helps children to learn important social skills, use their imagination, concentrate and be more self-directed,’ he wrote in *The Daily Telegraph* in February in the hope that parents would respond to his plea during the half-term break.

He is also urging schools to provide more opportunities for unstructured fun in the playground and draws their attention to Outdoor Classroom Day on May 18 (<https://outdoorclassroomday.org.uk>).

In her article on sensory learning, Joanna Grace explains how having lots of opportunities for rough and tumble and sensory play helps children develop the ability to filter out distracting sensory input and focus on the task in hand. Ms Grace works with people who have profound disabilities, but some of her sensory strategies can be extremely effective in mainstream classrooms too. Find out more on pages 34-36.

Concluding our roundup of this issue’s themes, you can learn more about PDA on pages 38-41 and take a fresh look at how you use PowerPoint on pages 8-10. We hope you find it informative and useful. Have a good term.

Alison Thomas *Sophie C.*

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Dialogue and discussion are at the heart of every lesson at School 21



ReflectED metacognition may improve maths outcomes

The ReflectED programme was developed by Rosendale Primary School, London, to improve pupils' metacognition. This includes the skills of setting and monitoring goals, assessing progress and identifying personal strengths and challenges.

ReflectED consists of half-hour lessons delivered over 28 weeks which teach pupils strategies they can use to monitor and manage their own learning. Pupils are supported to apply these strategies across the curriculum, and record audio, photographed and written notes of their reflections. They are then encouraged to review and reflect on these so that they can observe their progress and consider which strategies seemed to work well.

Teachers can also review these records to get an overview of the areas that pupils are enjoying or struggling with, and identify specific pupil needs. For example, a teacher could explore the notes that a pupil has tagged as 'maths' and 'difficult' to see which ones they struggled with, and examine which strategies seemed to help them with this.

The programme was co-funded by the Education Endowment Foundation (EEF), the KPMG Foundation and the Nominet Trust. The impact of the programme on the attainment of pupils in Year 5 was

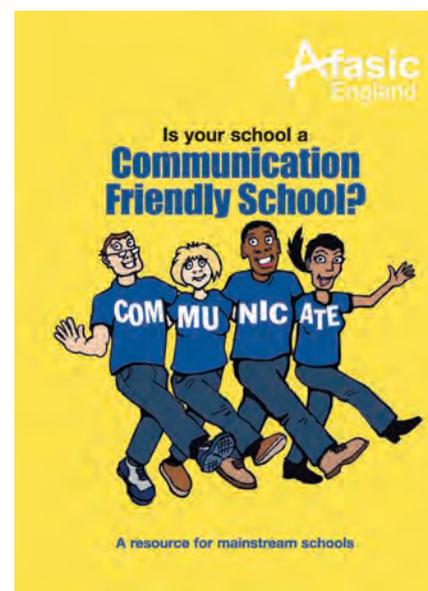
evaluated using a randomised control trial involving 1,858 pupils. Year 5 teachers within each of the 30 schools were randomly allocated to either participate in the programme or teach a control group which continued as normal. The primary outcome measure was pupils' maths attainment. The evaluation also examined the impact on pupil's reading attainment and attitudes towards reading and maths, and the impact on the maths attainment of pupils eligible for free school meals.

Pupils who participated in ReflectED made an average of four months' additional progress in maths compared to pupils who did not. However, they made an average of two months' less progress in reading compared to pupils who did not.

Most schools were already teaching metacognitive and reflective skills similar to those encouraged by ReflectED. This might have limited the additional impact that ReflectED had on teachers' practice and pupils' outcomes. Teachers suggested that ReflectED would work best as a whole-school programme, and that they could deliver the programme more effectively after the first year of delivery.

Future research could examine the impact of implementing ReflectED across all year groups in a school and allowing more time for the programme to become embedded.

Is your school a communication-friendly school?



This popular resource for mainstream schools from the national charity Afasic is aimed at all school staff. Whilst the information is specifically targeted at children who have speech and language difficulties, many ideas will benefit the whole school community. Afasic is offering the resource at the discounted price of £1.00 (including p&p). <http://bit.ly/sc236-04>

Practical advice for teachers on pupil behaviour

An independent review providing practical guidance to teachers on how to tackle bad behaviour in classrooms has been published by the DfE.

Teacher and behaviour expert Tom Bennett spent several months meeting classroom teachers and leaders from a variety of schools to identify successful strategies used to tackle disruptive behaviour. His report *Creating a culture: how school leaders can optimise behaviour* concludes that, while there is no silver bullet, a variety of strategies can be used to tackle poor behaviour.

It also highlights that although standards of behaviour can be a challenge for schools, leadership is key to creating the right culture to tackle this issue. Download the report from <http://bit.ly/sc236-14>

Tom Bennett says: 'How well students behave in school is crucial to how far they succeed socially and academically. There are many tremendous schools doing a superb job and some schools that could improve a great deal. Every school has different circumstances and challenges, but we found that some themes were almost universal: clear routines robustly administered, high expectations and a focus on building a strong sense of identity and good relationships where children feel they belong, are safe, and are expected to do their best. That's why I called it "creating a culture". Because these things don't happen by accident.

'We also need to acknowledge that in some schools, challenges faced are greater than in others, and in these circumstances we need to look at better

ways of guaranteeing that provision, skill sets and support are available. The skills required to improve school behaviour cultures already exist within the ecosystem of schools. The challenge now is for us to collaborate as a community to do so.'

John d'Abbro, executive headteacher of New Rush Hall School, Ilford, says: 'This is a refreshingly powerful, down-to-earth and practical report, which distils and recognises effective good practice. Mr Bennett makes the key point that continuous professional development in behaviour management is vital for both teachers and senior leaders and more needs to be made available. The case studies exemplify these points and further demonstrate that behaviour is a whole-school issue.'

Bowing to parental pressure?



Many teachers think that children with genuine needs are missing out because resources are being diverted to children who don't really need help

Misdiagnosis of SEN in schools means children with real problems are overlooked, teachers warn.

According to a new report *Hooked on SEN not on need* from GL Assessment, 57% of teachers think there is a misdiagnosis of SEN in children, with 54% blaming parental pressure. Barely a quarter of teachers say misdiagnosis is not an issue.

62% of teachers think pupils with genuine needs are missing out because resources are being diverted to children who don't really need help; only 18% disagree.

72% of teachers believe some parents want their child to be labelled as having a learning difficulty even though there is

little objective evidence to support this. When asked why they thought parents pushed for a diagnosis, 64% said it was because some parents wanted a medical or psychological explanation rather than being willing to accept that their child had a classroom issue that could be addressed by a teacher. However, 39% of teachers thought it was because some parents wanted a label to help their child gain a competitive advantage in exams, although 37% thought that was not the case.

On the whole, teachers in the survey, which polled more than 800 teachers across the UK, thought most parents were supportive. 65% thought parental interaction with them was appropriate. Only 25% thought it was lacking, with

10% believing it was intrusive and inappropriate.

Individual parents, however, presented a much bigger problem. 52% complained that at least one parent took up so much of their time that it was difficult to give others sufficient attention, with 41% saying they had to deal with more than one difficult parent.

Lorraine Petersen, former chief executive of nasen, wasn't surprised by the findings. 'Most parents will work on the assumption that the quicker you assess why a child is having difficulties and give them a label, the faster you can get extra support. There may also be a sense of relief that comes with being able to "blame" a diagnosed disorder. Parents may think people will be a lot less judgemental of a child's behaviour – and their parenting skills – if they know the child has a label.'

Some parents, she pointed out, had the opposite problem and were in complete denial about the support their children needed and resisted having them on a SEN register.

Greg Watson, chief executive of GL Assessment, says: 'Few things are more difficult for a teacher to deal with than a frustrated parent who cannot understand why their child is not doing as well at school as the parent feels they should. Parents naturally want to know why. But the fact is that a lot of issues children present are best addressed in the classroom not in the clinic; they don't necessarily need a label and their condition may even be temporary.'

Download the report here: <http://bit.ly/sc236-08>

In the dark

Research into the post-16 transitions experiences of blind and partially sighted young people by the Royal National Institute of Blind People throws up some worrying findings.

While the majority of participants in the study remained in education after completing their GCSEs, they have followed a number of different pathways, which, for several young people, have not been straightforward or as planned.

'Churning' has been a key problem for some in further education (FE) – this is where a student has to repeat a year or takes longer to complete the course, or has to take courses at the same level

rather than progressing to a higher level course.

Those who have moved into employment have tended to be participants with less severe levels of sight loss.

Gaps have been found in the use of, and training in, low vision aids and assistive technology, including specialist software. There has been a general move by participants towards the use of mainstream technology, using standard functions on computers and mobile phones.

For young people to have positive and successful experiences in post-school

settings, they need skills in independent learning, everyday living, mobility, social communication and self-advocacy, but not all participants had these.

Many of the young people had progressive sight conditions. When they experienced a deterioration in their sight while at FE college, staff struggled to adapt to their changing needs. Meanwhile, despite the introduction of the SEND Code of Practice in 2014 and associated changes in policy and legislation, none of the participants had an education, health and care plan, and very few knew what it was.

Find out more: <http://bit.ly/sc236-09>

Stigma stops young people from talking about mental health

New research from the Prince's Trust reveals that 24% of young people would not confide in someone if they were experiencing a mental health problem, with many fearing that it could affect their job prospects.

The research, based on a survey of 2,215 respondents aged 16 to 25, found that the vast majority of young people (78%) think there is a stigma attached to mental health issues.

32% of young people who would keep quiet about their mental health

worries think that admitting to a problem could affect their job prospects, 57% wouldn't want anyone to know they were struggling and 35% fear it would make them 'look weak'.

The research, conducted anonymously online by YouGov, found that 47% of young people have experienced a mental health issue. Consequently, they are significantly less likely to feel in control of their job prospects, more likely to feel too tired and stressed to cope with day-to-day life, and more likely to feel they have no

control over their education, training or finances than their peers.

Dame Martina Milburn DCVO CBE, chief executive of The Prince's Trust, says: 'We know that issues like depression and anxiety can have a crippling impact on a young person's aspirations and life chances, so it's alarming to find that so many would rather live with mental health issues than talk to anyone about them. We must all work together to instil confidence in these young people that they won't be stigmatised.'

New funding for pupils with SEND

The government has announced a £215 million funding boost to transform the lives of thousands of children with SEND by increasing school capacity and making it easier for them to access good school places.

Local authorities are to receive between £500,000 and £1 million each in the academic years 2018-19 to 2020-21 to make capital investments to support children with education, health and care plans (EHCPs) in their areas.

The allocations will be used to create new places and improve facilities at existing schools and are primarily intended to develop provision for pupils with more complex SEN (i.e. having an education,

health and care plan or a statement of SEND) in mainstream and/or special schools. However, local authorities may also spend the fund on other education-based provision for children and young people aged from 0 to 25 where this meets local needs, such as early years settings or further education colleges.

Engagement with parents and young people is crucial. Local authorities are expected to consult with parent carer forums to ensure that the range and quality of provision reflects the needs and aspirations of children and young people in the area. Local authorities must also publish a concise plan to show how they intend to invest their share of the fund.

Short and intensive may work best

Research shows that information is more easily learned and recalled when it is repeated multiple times and separated by periods of unrelated activity.

Spaced Learning, a concept developed by the Hallam Teaching School Alliance and run by Notre Dame High School, Sheffield, builds on evidence from neuroscience and psychology. 2,000 pupils in 15 schools took part in a small study of the programme funded by the Education Endowment Foundation (EEF) and the Wellcome Trust. Teachers were trained to give short, intensive biology, chemistry and physics lessons to pupils in years 9 and 10. The 12-minute sessions were repeated twice and broken up with 'spaces', where pupils did something completely different.

The study tested three versions of the programme, where the same content was delivered with 'spaces' of 10 minutes, 24 hours or a combination of both.

The independent evaluators from the Centre for Evidence and Social Innovation at Queen's University Belfast reported that the programme was successfully integrated into school timetables.

Teachers found the 'spaced' lessons easy to deliver and pupils appeared to respond well. The researchers found some preliminary evidence that the most promising version of the programme uses both short 10-minute and longer 24-hour 'spaces'.

The EEF plans to fund a randomised controlled trial to find out whether the programme has an impact on GCSE science grades.

SEND tribunal powers to be extended

The Department for Education and the Ministry of Justice have announced that they will introduce a two-year national trial in England to extend SEND tribunal powers to the health and social care sections of education, health and care plans (EHCPs).

The National Autistic Society welcomes the news: it made the case throughout the passage of the Children and Families Act 2014 for a single point of appeal for challenging any aspect of an EHCP – rather than three separate routes for education, health and social care.

From early 2018, parents and young people who are dissatisfied with any aspect of an EHCP, and who have not been able to resolve their disagreement locally, can take their appeal to the SEND tribunal.

The announcement follows a 15-month

pilot project in 17 local authority areas in England. A detailed review of this found that making health and social care part of the appeals process improved joint working across education, health and social care in the areas that took part. It also appears to act as a lever to make it more likely that families will be offered a resolution they are happy with before their appeal goes as far as a tribunal hearing.

While the SEND tribunal makes decisions about education that local authorities have to follow, the government has decided that the tribunal will only have the power to make 'non-binding recommendations' on health and social care. But it makes clear that 'while the first-tier tribunal SEND's recommendations are non-binding for health and social care partners, we would generally expect that recommendations are followed.'

What does information overload feel like?



A new film from the NAS helps to show what information overload feels like

Holly, 12, is autistic and stars in the National Autistic Society's powerful new film and campaign to increase public understanding of autism.

The film follows Holly's character on a single day, showing how overwhelming everyday situations can be when autistic people aren't given enough time to process information.

People on the autism spectrum often find social situations difficult and struggle

to filter out the sounds, smells, sights and information they experience, which means they feel overwhelmed by too much information when out in public. This can also make it difficult to process information like questions, so they sometimes need more time to reply.

Watch it here: <http://bit.ly/sc236-10>

Holly held the first screening of the film at her Year 7 assembly last term, using the platform to talk to her classmates about

her autism for the first time. She hopes this will help them understand more about autism.

Holly is also encouraging people to get involved in the National Autistic Society's *Too Much Information* campaign and to think about the small things they can do to make the world a more autism-friendly place – whether in the classroom, at work or at the shops.

And finally...

Dyslexia: from assessment to intervention

ACAMH is running this one-day conference for practitioners working with children who experience literacy difficulties or dyslexia. The conference aims to promote the notion that the assessment of literacy difficulties should lead to a clear pathway to effective and individualised interventions. Topics include: key areas of debate, assessment for dyslexia, key interventions, and understanding dyslexia and how to deal with it. Cardiff, 29 September. <http://bit.ly/sc236-03>

Autism and technology

This one-day conference will give you the tools to support people on the

autism spectrum using technology. Sessions include virtual reality to counter phobia, using technology to help with independent living, technology in the classroom, autism and cyberbullying. Manchester, 13 June. <http://bit.ly/SC236-11>

SENCO socials

The Wraparound Partnership runs after-school socials where SENCOs from all sectors can share learning and successes and learn from their mistakes. The next one will explore how to access funding by thinking out of the box, training teachers and leading leaders. Manchester, 11 May. <http://bit.ly/sc236-12>

Supporting transitions conference

This one-day conference will help practitioners develop a greater understanding of transition and provide

them with practical approaches to support autistic children and adults through the process. Topics include taking the anxiety out of transition, person-centred approaches and developing transitional education projects. Manchester, 6 June. <http://bit.ly/sc236-15>

T-levels on the horizon

The government is launching T-levels, a new set of technical vocational qualifications designed to offer an alternative to academic routes. T-levels will allow 16- to 19-year-olds to study subjects in 15 sector areas including hair and beauty and construction. The courses will replace thousands that are currently on offer and it is claimed they will make access to the job market easier. Students in further education or technical college will also be eligible for maintenance loans.

 #oeSENCO

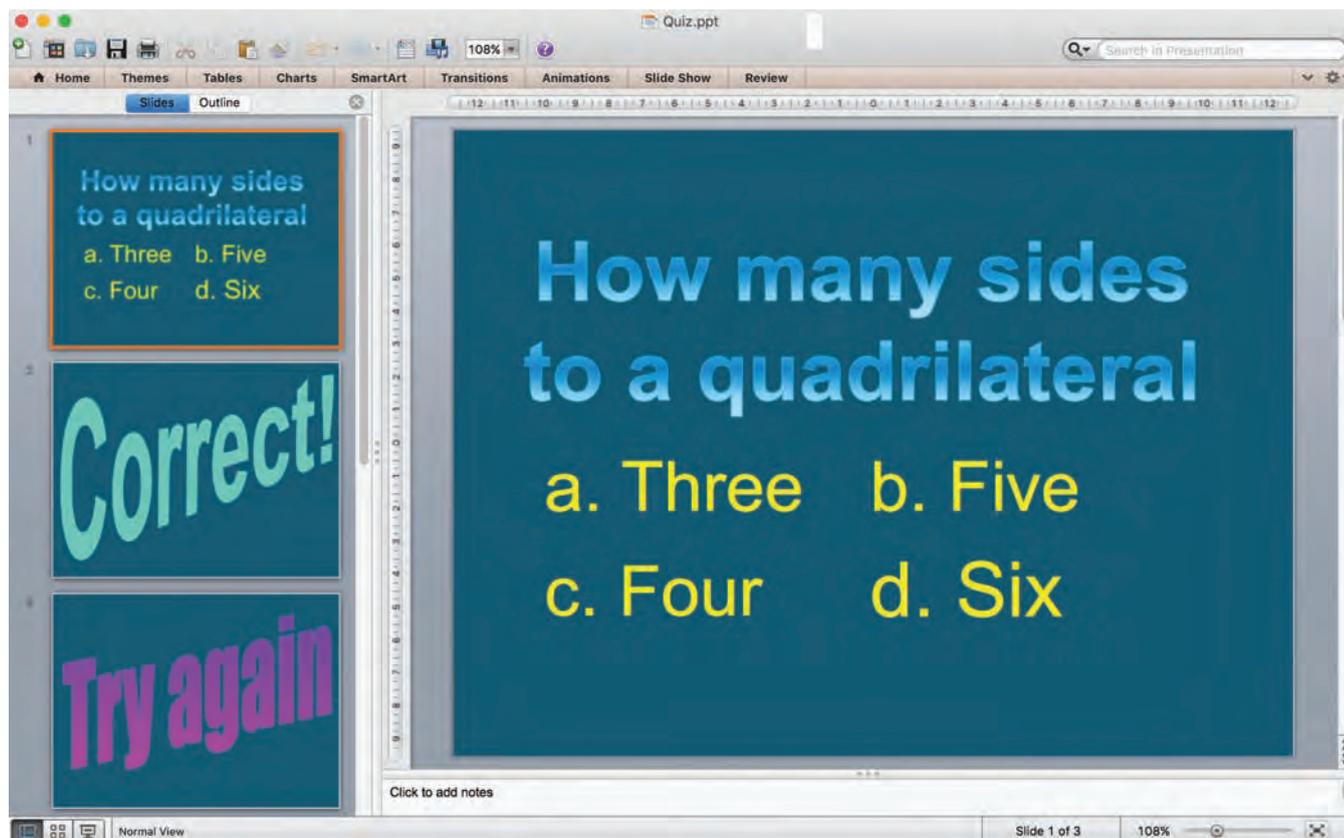
SENCO Update

ONE-DAY NATIONAL CONFERENCE

15th Annual SENCO Update

Meeting the needs of all learners, supporting staff to deliver QFT and becoming an inclusive and accessible school

25th May 2017, London



A PowerPoint quiz

Creative PowerPoint – really?

John Galloway demonstrates some clever ways to use PowerPoint as a tool for inclusion

If I mentioned ‘Death by PowerPoint’, you would know what I meant: an interminable presentation delivered in a monotone voice where every word is read from an endless selection of slides. It is not the software that is at fault, but the presenter. Used creatively, PowerPoint is a very useful tool for inclusion.

Teachers use it extensively: at registration, for each new topic, as a prelude then a recap, and again for revision purposes further down the line. Many also use it as a framework for activities, automatically scrolling through on the interactive whiteboard to give the class an immediate reminder of what they have been asked to do.

Three golden rules

When creating a presentation there are three main considerations.

- Can all pupils see it?
- Can they understand it?

- Does it address the ‘Goldilocks criteria?’ – content that is not too little, nor too much, but just right.

There are several things you can do to ensure it is more accessible too. Essentially, keep it simple. Here are some suggestions.

- **Use a high contrast design**, with a cold colour for the background, and a warm colour for the font. Yellow text on a dark blue slide works well.
- **Keep the background plain** and free from effects, logos or other clutter.
- **Use a sans serif font** such as Arial or Comic Sans, which is at least 30 point so that it can be read from the back of the class, and put the text at the top of the slide.
- **Use no more than six bullet points** with a maximum of six words in each.
- **Use images and graphics to connect the learning**, particularly symbols.

- **Be wary of using images or animations that might distract attention.**
- **Avoid transitions or animated text.**

Stand and deliver

Once you have created a presentation, there are many things to consider when using it.

For a start, it is better to stand at the board than to sit at the teacher’s desk and let the presentation take the limelight. Then, not only can you use your finger to provide a focus instead of the cursor, which some pupils can find hard to follow, you also remain the centre of attention instead of just becoming a voiceover.

Sometimes the practical reason to remain seated is so you can click to the next slide. There are ways around this. On an interactive whiteboard, tap on the board, move your finger right to move on or left to move back, then tap again. Alternatively, you could invest in either a

remote clicker or a wireless keyboard and mouse. For a low-tech option, appoint a pupil to sit at your desk and click at your bidding – one way to make sure they follow what you are saying.

Make every slide count

Take things slowly, giving pupils time to absorb the information. It can be very difficult to read and listen at the same time – for all of us, but especially if you have difficulties processing speech or text, or both. When you open a slide, pause and give time for reading before you speak. And, unless it is entirely necessary for the presentation, put up all the bullet points at once, so your audience can understand the direction of the lesson.

Read every slide. This practice has helped give PowerPoint a bad name, but it is necessary for learners who may be struggling with the text, perhaps because of a learning difficulty or because they are new to English.

When you want the class to discuss a key point, blank the screen by pressing Control and then either 'B' for a black screen or 'W' for a white one.

Creating dynamic resources

Ordinarily, we use PowerPoint in a linear

way, that is, one slide follows another as we click through it. But it doesn't have to be like that. If you attach hyperlinks to images or text, you can jump to other points in the presentation, or even to other presentations, documents or places on the internet.

“It is better to stand at the board than to sit at the teacher's desk and let the presentation take the limelight”

A hyperlink is just like a link on the internet that takes you to another page or website. To add one, select an image or text box, or highlight some text, then right-click and choose the Hyperlink option. A dialog box will open. Choose 'Place in this document' and it will give a list of your slides. For the set-up to work properly, you also need to open the Transitions ribbon and remove the tick from 'On click' beneath 'Advance Slide.' If you click 'Apply to all', your presentation

will only operate through the hyperlinks.

Hyperlinks in practice

An easy place to begin is by making a quiz. Start by creating three slides. On the first, pose a question and add four possible answers, only one of which is correct. Insert hyperlinks from the three incorrect answers to the second slide, which contains a message such as 'Try again' and is itself hyperlinked back to the first slide. The correct answer will have a link to the third slide, which says 'Well done'. To extend the quiz, simply link from this message to a fresh question as the starting slide in another set of three.

A variation of this is to create a non-linear story, often the basis for fantasy novels. Here a story begins, then choices for how it might continue are offered. Typically one will move the story on, another will take you back a stage, and a third will send you back to the beginning. This structure can also be used in other ways, for instance, to explore the choices learners make in difficult situations (see an example of this in *Teaching Consequences, Special Children 235*).

If you use hyperlinks to connect different presentations – by choosing 'Existing file or Web Page' when inserting

The Haunted Castle

You are playing cricket with your friends Yosuf and Sam. Yosuf hits the ball so hard it goes through the window of the haunted castle. Yosuf says: "It's your ball you go and get it." YOU ARE SCARED! The castle door creaks open.

Enter the castle

You find yourself back outside.

Start again

You are chased by a ghost and you end up back in the hallway.

Continue

You find yourself in the dark hallway of the haunted castle.

There are three doors. One is a hexagon, the next is a triangle, and the last is a rectangle.

Choose one.

Now you are at the bottom of the stairs. You find a skeleton hanging on the wall.

The skeleton says: "I will tell you which way to go if you answer a question." "What did Humpty Dumpty sit on? A wall, a chair, or the floor?"

No, Humpty Dumpty did not sit on a chair. You find yourself back in the hallway.

Continue

You are wrong. You get covered in gunge. You go back home to clean up and start again.

Start again

You find yourself in the attic. There is a big hole in the floor. To get to the other side you can use a rope, a plank or a pogo stick.

Go back

The plank is not long enough.

Continue

The rope breaks. You fall through the hole and find yourself back with the skeleton.

You are on the battlements. There is a big spider's web. You have to get through.

You can use a sword, a stone or you can kick the web.

Choose one.

The sword has a spell on it. It disappears.

Choose again

You throw the stone at the web. The stone bounces back and hits you.

You have to go to the hospital and start again.

You are in a dining room. There are 3 pieces of fruit on the table.

You are hungry. You take a fruit to eat. Choose a banana, an apple, or an orange.

The banana is rotten. It makes you feel sick. Go back home and start again.

The orange is too juicy and you want to wash your hands. You open the door to look for the bathroom. You find yourself back with the skeleton.

Continue

You look around the dining room. You see something yellow in the fireplace. It is the ball. You pick it up and run back outside to your friends.

Well done!

The End

Outline of a non-linear story



Slides from a linear story

each one – you can bring together different projects through a menu page. For instance, for a school open day, you could create an information point for the lobby with a touch screen. As parents arrive, they click on the aspect of the school that interests them, which opens the presentation with the information.

Pupil use

Another example of hyperlink use is during presentations at annual reviews, particularly if you practise person-centred planning.

Here, the intention is to think about the learner holistically, with their goals at the forefront of the process. PowerPoint can help you organise their ideas and structure their input.

Rather than one long presentation, where each click moves on in a linear way, it can be seen as a number of shorter presentations, each linked via a central page using hyperlinks. In this way the first slide will show the areas to be covered, such as *What I am good at*, *What I need help with*, *What people like about me*, *My future* and so on, which become spokes of a wheel with the pupil at the hub. As

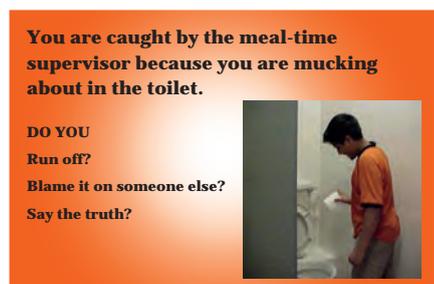
the review moves on, a fresh set of slides is opened and pupils have a supportive structure, which acts as a prompt, enabling them to lead the discussion in whatever capacity they feel able to.

Hard copies help

PowerPoint is not only a useful digital medium, it offers printing choices which add still more flexibility.

A print-out can be useful if a learner finds it difficult either to see the board or to maintain focus. With their own copy of the slides before them, they, or a TA, can bring their attention back to what is being said.

You can also use the presentation as



A slide from a pupil-developed game of Consequences

the basis for follow-up activities. Printed as hand-outs with multiple slides to a page, they can be cut up and used for a sequencing activity. Or you could add Call Outs to slides – usually thought or speech bubbles from the Shape option – left blank for pupils to fill in as a labelling exercise.

Another way to create worksheets is to add questions to the Notes section below the slide when in editing mode, then print using the Notes Pages option. This prints the slide at the top of the page and your text beneath it.

The printing options can also be used to give a photostory feel to a hard copy. For instance, you could create a presentation using photos posed by the class, then insert dialogue in speech bubbles. When printed as hand-outs with six slides to a page, you get the effect of content from a comic or magazine.

So, get creative, and help resuscitate the reputation of this much-maligned resource.



John Galloway is a consultant and writer. He advises on ICT, SEND and inclusion in Tower Hamlets

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The benefits of a game-maker culture

Sophie Chalmers finds out how creating games is developing important life skills in students with SEN

Every week students in three Year 8 classes at Stony Dean School, Amersham, arrive abuzz with anticipation for their respective ICT lessons with Thomas Boardman. They can't wait to settle down in their groups and get going with coding their games.

The school specialises in communication and interaction for students aged 11-19 who have a wide range of needs, including MLD, ADHD, ASD, sensory needs and physical impairments. The three classes comprise students with very different needs. One has students with high functioning autism; another has students with physical impairments and difficulties with fine motor skills; in the third are students with ADHD, moderate learning difficulties and sensory difficulties. Despite these disparities, students in all three classes have made huge progress in the last academic year thanks to researched-based practice that encourages them to evolve from game players to game makers.

Initially, the three classes were the focus of a pilot project to investigate

and develop the use of digital games as a pedagogical tool in the classroom. Mentored by Dr Maria Kambouri from the UCL Institute of Education, Mr Boardman hoped to find out how games might be used in education to improve attainment (see box on page 14).

The project came about as a result of a successful application to Erasmus+ for KA2 strategic partnership funding, and is a partnership between Buckinghamshire County Council and the Gothenburg Region Association of Local Authorities in Sweden. The project was run in both Stony Dean School and Lexby, a mainstream school in Gothenburg, which was used as a control group.

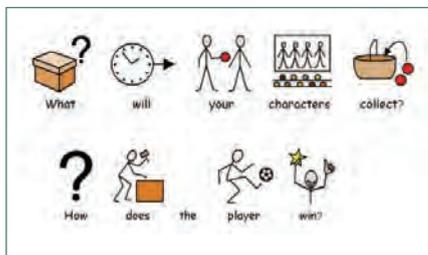
Teaching students to code

When he started out, Mr Boardman was open-minded about the nature of the benefits he was hoping to see. However, he discovered that games creation is a perfect vehicle for improving key life skills such as teamwork, communication for receptive and expressive language, patience and problem solving, all of which had a direct impact on students'

behaviour and attainment in school. Importantly, the whole project sat neatly within the computing National Curriculum, which means it can be adapted to many school settings.

As preparation for the project, he spent 12 weeks teaching the students to use two coding programs: Scratch and Kodu. These are very different. Scratch is a text-based 2D programming application that allows students to create stories, games and animations, whereas Kodu is a 3D programming tool that uses images, rather than text, for the coding process, making it more accessible for those with literacy difficulties. Although Mr Boardman had only used Kodu a little, he discovered many online resources to guide him and, learning alongside his students, supported them in the creation of a game of Pong and a racing game.

At the same time, he produced a journal/record book supported with symbols for each pupil, which outlined the project aims and the steps involved in game creation, and provided space for pupils to record their ideas along the way. For example:



Having equipped students with the basic skills to code, Mr Boardman divided them into several groups to create their own games using either of the programs. He predicted that more would use Kodu because of its visual nature and the clear sequences involved (24/26 students did so). Of the two that used Scratch, one wanted to challenge himself to read more, and the other had a visual impairment and could not see the 3D objects as presented in Kodu.

First, however, the groups spent seven weeks designing their games. During this time, they had long discussions about what their game would do and how, and evaluated each other's designs. They talked about who their main character would be, what this person would do and how players would win the game. In the process, they gave each other advice and help, and lots of positive feedback. This preliminary stage was vital to enable the students to visualise what the game would look like, identify its aims and simulate the working life of a computer programmer.

At the end of each session, Mr Boardman would summarise the skills, including life skills, the students had learned during the lesson and encourage them to use these in the rest of their classes.

A positive impact

The project outcomes surpassed all Mr Boardman's expectations. Here are some individual examples.

Becoming team oriented

One student with severe expressive communication difficulties used to rely entirely on a learning support assistant (LSA) to read for him, complete his work and prompt him to join group discussions.

It turned out that he had an aptitude for designing games and his confidence soared. As a result of taking part in the project, he became very team oriented and took it upon himself to start helping other students, without assistance and without being prompted. He even became a willing participant in the ICT discussions.

The most important thing he learned was that it was all right to get things wrong in front of his peers, and not to feel embarrassed or anxious about this.

He is now a key member of his form group and is confident enough to stand up in front of everyone to explain what work he has done.

Learning to take criticism

Another boy has severe learning and language difficulties, which led him to become agitated, confused and upset when he had to work in a team. Before the project started, members of staff said that he regularly had negative interactions with two students in his class that often resulted in him being sent to the behaviour unit.



Coding games provides an opportunity to develop students' social skills

As the project progressed, he began to see that he could interact more positively with others and he realised that not everything people said to him was negative. Once he had taken this on board, he was more able to take positive criticism from his peers. In the process, he discovered that he could work



Mr Boardman guides and supports students with language structure, reinforcing what they do through words, and helps them understand actions as well as timing

alongside his fellow learners in the ICT sessions in a calm, collected manner.

Before the project, the school recorded an average of seven behaviour incidents a week for him. Afterwards, this dropped to an average of three.

Problem solving

A third student has ADHD and Asperger syndrome, and had low self-esteem due to his poor social skills and language difficulties. With a reading age of three and a half, his confidence plummeted whenever teachers put anything written in front of him. In addition, as soon as he was given something challenging or had to make decisions independently, anxiety would kick in and he would remove himself from lessons and go to the nurture unit.

The project allowed him to blossom. He overcame his fear of being challenged and was soon revelling in being part of a team developing games.

Rechannelling energy

The final example concerns a boy with severe ADHD and some autistic traits. This made it hard for him to concentrate and remain patient, which meant he tended to go off task easily.

He was also forever getting into trouble; before the project, the school recorded an average of 12 behaviour incidents a week. After the project, this figure went down to no more than two a week – he had learned that he could channel his need to be active into helping other students. At first, he asked permission to do this, but by the end of the project he was taking the initiative and behaving almost like an LSA.

Intriguingly, he was not one of the students who showed a natural aptitude for coding and he never became one of the high achievers. However, he now gets a deep sense of gratification when he is helping others. Meanwhile, working on games has improved his ability to stay on task generally.

Creating better communicators

All pupils managed to create a game and completed their project evaluations. When they were compiling these, Mr Boardman was surprised – and delighted – when they listed that some of their new skills were social as well as academic. Here are some examples of student feedback.

- I learned to work as part of a team on a task.
- I improved my communication skills by helping my friends out.

Up-skilling teachers

Dr Maria Kambouri, who is researching how to make schools more inclusive through the use of technology, was Thomas Boardman's mentor during this project.

She is a senior lecturer in the department of psychology and human development at UCL Institute of Education. Her research style is participatory, with a teacher at the centre of a project developing their skills. Together they discuss what the individual wants to achieve, identify the software that might help, and often negotiate a licence from the developers. Dr Kambouri then observes the teacher using the software as a teaching tool over six weeks. In some cases, an intervention may only be a few minutes long, but on each visit, she will discuss progress with the teacher and sometimes uses her own assessment tools to establish what difference an intervention is making. In this way, they become co-creators of knowledge.

There are two phases to the projects she runs with teachers: the first is exploring technologies and experimenting; the second is passing on information and insights to colleagues, with the teacher mentoring them in turn. Meanwhile, her MA students go in and learn by observation while

collecting the information they need to write their dissertations.

'Teachers have to be able to initiate and conduct a given intervention on their own,' she says, 'although we might work on sharpening their observation skills, and propose and explore with them different ways the tool could be used. We also condense research for them – few teachers have the time to search for academic papers on the internet, and even then, few of these contain the detail required to run an intervention. For example, when does a teacher decide that a child might fail a game for a short time? In this situation, the teacher might get the child to work at a level slightly higher than they are comfortable with, and then have to deal with the behavioural issues that arise.'

In Mr Boardman's project, the use of gaming technology was not really about teaching students coding or literacy but about developing behavioural and life skills. The outcome was that they became more socially apt and, crucially, more patient, which enabled them to develop their ability to concentrate on a task even when they found it difficult.

'We know students like playing games,' Dr

Kambouri continues, 'but what they are really learning is how to interact with each other during the creation process to develop, and then to debug or improve their game using their newly acquired problem-solving skills. Turning students into game makers creates a lot of opportunities to work on their social, emotional and behavioural skills, while, at the same time, teaching them practical skills like coding.'

'For example, in one observation,' she concludes, 'there was a moment when a student organised a game to include his peers and gave them roles. This is exhibiting management and leadership skills – we do not see that very often. Usually we just see an improvement in literacy, maths and peer-to-peer collaboration. Here we were observing a much higher order of skills and Mr Boardman facilitated this through carefully structured and well-prepared lessons, which were similar to an intervention with a much longer preparation period.'

Developing such pedagogic skills combined with teachers' enthusiasm for exploring games and technology as tools for learning and teaching is the core of the E-mentors project that Dr. Kambouri is leading.

- I learned how to talk with my mates, which I would normally find hard.
- I learned how to solve a problem that I did not think I could do.

These comments illustrate a major breakthrough because most of the students struggle in a social setting. The fact that they could independently and confidently help their peers, and use and improve their communication skills, was a direct result of participation in the project.

'All of them became better communicators,' adds Mr Boardman, 'and this has transferred into other areas of learning. You can see it when they are talking to each other outside the classroom and even in work experience.'

Trials in other classes

When Mr Boardman presented his insights to the rest of the staff, some were keen to try his ideas in their own classes, and that proved successful. In addition, the therapy team started to use game making in the school's speech and language programme, although they apply the principles using Lego® rather than computer games.

He also ran training sessions for his colleagues, and many of them came to observe his ICT lessons during the project, where he would demonstrate how different strategies worked for each group – for

example, when working with students who have high functioning autism, he would focus on sequencing and scheduling.

'My original aim was to encourage young people to take up coding,' he says. 'I felt that, while it is particularly hard for our students to explain a game, if they could plan, design and draw it, it would be easier for them to comprehend and so describe it to other people. I wanted them to become confident in themselves, feel they could achieve something, work with others and take skills from lessons into life.'

“By the end of the project he was behaving almost like an LSA”

'I used a lot of visual aids and sequencing, and not only showed students how to construct a game but allowed them time to play it. They were fully engaged because they felt empowered to plan and code, play and debug, play some more and then improve their game. They were constantly challenging each other and themselves. I have become a great advocator of teaching children to become game makers.'

Reflecting on the outcomes, he says: 'Next year, I hope to roll out the concept

of game creation across the school. There are many ways we might do this. For example, we used Minecraft for Education in a humanities project where students were learning about medieval castles. We are also introducing Minecraft into maths lessons.' (See *Using Minecraft to camouflage learning, Special Children 227*.)

Mr Boardman is convinced that digital games are a powerful way to raise academic achievement and improve life skills. To that end, he presented his insights from the project at this year's BETT Show, and is planning to speak to other schools in Buckinghamshire about the advantages of turning students into game makers.

FIND OUT MORE

- **Resources.** Thomas Boardman has loaded the resources he developed for the project onto his blog: <https://mrbgamesproject.wordpress.com>. He can also be contacted direct via Stony Dean School
- **E-mentors.** More information on the projects and the case studies in special needs classrooms will be disseminated this summer. Contact m.kambouri@ucl.ac.uk
- **Erasmus+** is an EU programme for education, training, youth and sport. It runs from 2014 to 2020, and each year organisations are invited to apply for funding to undertake creative and worthwhile activities. www.erasmusplus.org.uk

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Michael enjoys working behind the bar at Holiday Inn



Pathway to employment

Karen Russell-Graham investigates the ingredients of a successful supported internship

Michael has mental health issues and a learning difficulty. Accepted on to a supported internship programme at Milton Keynes College, he explores his long-term aspirations.

Michael is keen to earn his own living and likes to help people. His profile matches hospitality or a caring role. But how does he feel about this? What are his ambitions for the future? He says he wants to work in business, so the college approaches Holiday Inn. With his job coach in support, he passes the interview and starts working three days a week as a volunteer.

His coach continues to support him as he begins to learn the ropes, but after two weeks he is able to carry out his duties independently. Holiday Inn is delighted and has requested more supported interns for September.

Recipe for success

This is an example of how a supported internship can work when the ground is carefully prepared and all the parties involved work closely together.

It doesn't always turn out that way, however. When the scheme was first trialled in 2012, only 36% of the 190 students who took part went on to secure a job, the ultimate goal of the programme.

Supported internships

Supported internships are designed to support young people aged 16-25 with SEND into sustainable paid employment. The programme normally lasts for a year and includes unpaid work placements of at least six months. Anyone with an EHC plan, statement of SEN, or Learning Difficulty Assessment is eligible to apply.

A review of the pilot attributed this to a lack of awareness of the scheme amongst employers and interns' lack of confidence and insufficient knowledge about their potential employment options.

In response, the review identified the following success criteria.

- Recruiting only interns with a strong desire to work.
- Developing passionate staff with a complete belief in the programme.
- Sourcing personalised but realistic job matches.
- Liaising closely with employers.
- Engaging the full support of parents.

In addition, it stressed that college-based learning should be tailored to students' particular needs and explicitly linked to the workplace, with a clear focus on sustainable employment. For this, job coaches with broad skill sets would be critical.

All of this has been taken on board at Milton Keynes College, where students are appointed to roles that use their individual skills and abilities and contribute to their long-term career goals. They each have a specifically trained job coach, who supports them and their employer throughout the internship and beyond.

Now in its second year of running the programme, the college saw 80% of its interns move into paid employment last year and is hoping to achieve a 100% success rate this year.

Putting yourself in the employer's shoes

Pippa Bruckland is the personal tutor for the college's supported internships programme and also a job coach. Her students' disabilities include autism, ADHD, cerebral palsy, global delay and moderate learning difficulties.

Initially inspired by the programme's concept, on visiting learning providers already involved in the scheme, she discovered that at one college nobody had received a paid contract in four years; at another students were sweeping café floors or scouring the local golf course in search of lost balls. She felt that her students could find jobs like that for themselves; she wanted them to have money, prospects and kudos. She stopped considering what her students could do, asking instead: 'What do employers need?' Then she could plan how to support her students to deliver what employers actually wanted.

Ms Bruckland's background is in IT training in the private sector, which she believes enables her to see the employer's point of view. And it is the employer who must be convinced. Her first thought was to approach small companies, believing they would be friendly and flexible, but on reflection she realised they would have neither the capacity for further placements nor the backing of an experienced HR department, vital in supporting the programme. So she went big: Tesco, Morrisons, Currys PC World, Bosch – companies with a constant turnover of jobs. She worked for free during her summer holidays, learning different roles inside and out so that she could match them with students' capabilities.

The technique has worked. She currently has two students with placements at Tesco: the first, who has autism, is a 'dotcom picker', a process-driven role he finds comforting; the second, who has a learning difficulty, is



One of Michael's duties is to clear away empty mugs and glasses

a sales assistant on the till. Meanwhile, at Premier Inn, another autistic intern is a successful part of the cleaning team. 'Once he understood exactly what was meant by "completely clean", he was pinpoint accurate every time,' Ms Bruckland explains. 'Premier Inn couldn't have asked for more.'

“ Students are appointed to roles that use their individual skills and abilities ”

Persistence pays

Employers are busy people, and it can take weeks, if not months, to get a response. So when overtures to a local Tesco Extra went unheeded, Ms Bruckland approached Tesco HR directly. Soon store manager Ravi Aloysius invited her to talk. After 20 minutes he said: 'You're so passionate – let's do this.' Now he praises the scheme and the college's commitment and genuine desire to see its students succeed. 'We have already taken one student on to our payroll,' he says, 'and anticipate the same progress with our two current interns in due course.'

Ms Bruckland returned to HR to ask for more: now she has access to branches across Buckinghamshire and beyond, meaning students can have a placement – and potentially a job – close to home.

She recommends impressing upon employers the benefits that internships can bring to their business rather than being grateful for their willingness to take part. 'If I can provide you with a member of staff who can do the same job to the same standard each time because they can't bear the thought of it not being correct, someone who will be punctual and have 99% attendance,' she might say, 'which bit of that don't you want?'

Finding placements

Ms Bruckland has not encountered employer prejudice, but rather a sense of the unknown. 'They are more concerned about upsetting potential employees with disabilities,' she says. 'Once they are clear that there is support, including the training we offer their staff before and during the placement, they are often more open.'

But for a placement to work the student must want it. As the course begins, they consider what is realistic, and ask themselves: 'What qualities do I have? What skills, what experience?' At Milton Keynes College they are also asked what *they* want, which is a novel concept for some of them. Because of their disabilities, choice has been rare.

Placements are arranged during the first half term. Ms Bruckland will do her utmost to find the best possible match for each person, but some students can have a limiting focus – refusing to wear a hat, perhaps, or to travel beyond a certain distance. Cameron, who has short-term memory issues and no reading or writing skills, was even narrower. 'I want to work for Decathlon,' he demanded, and wouldn't budge.

However, his placement has motivated him to work on his literacy. He realises that some reading is needed in the workplace and can now recognise 60 of the first 100 high frequency words.

Preparing the ground

Most of Ms Bruckland's students will already have completed a Work and Learn course, where they do a little work experience and study 'soft skills', such as reading facial expressions and body language, appropriate professional behaviours, interview skills and how to present themselves. It is a good indication of whether they really want to work or not.

But the supported internship training is tougher. Soft skills are advanced; maths and English studied. Business, too, with the college using the TV programme *Undercover Boss* to analyse a firm's strengths and weaknesses. It's

Preparing for adulthood

a motivating tool, helping students spot how one poor worker can affect a whole business and that teamwork is essential. They also research a successful person with a little-publicised disability – for example, British F1 driver Nicholas Hamilton (brother of Lewis) who has cerebral palsy – and begin to see that their disability is only part of them, not the essence of who they are.

Banter is actively encouraged during lessons so that, even if students don't get the joke, they learn to recognise when someone is being humorous. And it works. Bosch's IT department noted that during 'banter' its current student stated: 'You are trying to be funny,' and understood that there was no malice. Offhand language is another regular feature of the learning. Saying: 'Get that, will you?' is normal under busy conditions, and students learn not to see it as rude.

Meanwhile, to bring the reality of the placement into the classroom, past interns return to tell the new cohort what to expect, a role that boosts their own self-esteem.

If an internship does not lead to a contract it is not through want of effort, as was the case with one intransigent student who refused to meet the employer

halfway. In such a scenario, Ms Bruckland will take responsibility for breaking the bad news. But when a contract is awarded, she hands over to the parents. 'It's so important that students hear the pride in their parents' voices,' she explains. 'It's about how they feel about themselves and their place in world. This course really changes lives.'

“With a little adaptation, people with autism become a reliable, valuable asset”

Meet the interns

Michael and Cameron work for two days a week during their internships.

At Holiday Inn, Michael makes hot chocolates and lattes, clears tables, takes orders and card payments. Michael was nervous for his interview. He didn't talk very much at first, but talks a lot more now. On his first day he made mistakes, but his job coach helped him to do things properly and in the right order. 'At first I found it confusing,' he says,

'but after the training I got used to it and now I find it easy.'

He gets on well with his manager, who helps if he has a problem. Before the internship he had worked at a burger bar, where he wasn't happy because he felt the manager was inconsiderate towards staff. 'It is important to treat staff right,' he says.

At Decathlon, Cameron hopes he can help staff and customers and likes to be thanked. If he wasn't at work, he believes he would just be at home watching TV. Instead, he is learning new skills to help him fix bikes.

Apprehensive on his first day, after he met a couple of people who made him feel welcome, things went well. At first his job coach stayed with him. 'Now I go by myself,' he says with pride. He finds college a 'bit hard' but has received help to master the basic reading and writing skills he needs for his job.

A parent's perspective

Matthew Head has secured a paid contract in the bakery at Morrisons. His mother Carol describes the journey.

'Matthew was non-verbal at four and wearing nappies at 10; you couldn't imagine he would ever be able to work. He has autism, dyslexia, dyspraxia and can't read or write. Things like going on the bus were a massive struggle, so, although he is very friendly (Matthew appeared on TV's *The Undateables*), we thought his options would be limited.

'At 19, he worked in a takeaway shop for a charity that takes people with learning disabilities, but he was always working alongside someone, never on his own. On the supported internship, he made things hard by insisting: "I'm not going to a garden centre," and demanding to be close to home. Ms Bruckland persuaded him to consider placements more than walking distance away. Morrisons was suggested. We discussed how to get here, who would be with him and at what times.

'He had to learn to be flexible: wearing plain T-shirts under his uniform, instead of his beloved rock concert T-shirts, and not expecting lunch at 12.00 o'clock on the dot. It was about getting him to understand that he was part of a bigger team; it was not all about him.

'He started in January 2016 with just one day, adding another after a couple of months. At the same time, he took a food hygiene course, with someone acting as scribe. After a while, he increased his time in the bakery to three days and his job coach gradually began to withdraw until eventually Matthew was coping alone. When his line manager pointed out



Cameron has been delighted to learn new skills in his work at Decathlon



Matthew poses for the camera at the start of his shift in the bakery at Morrisons

that the labels on bags of cookies weren't straight, we practised at home. At the end of the academic year, we all agreed we should continue on a volunteer basis for three days a week during the holidays as his best chance of getting a contract.

'Matthew likes the normality of work. From October 2016 he has worked one paid day a week plus some overtime. He would do more, even if they didn't pay him! He is still in supported employment, but now he can say: 'Oh yes, I work in Morrisons.' He is more flexible, too, not minding if break times change. I think he would adapt to another bakery in a different supermarket, if this was necessary.

'He likes earning, and is obsessed with being on time, arriving half an hour early just to be sure. When he was told he had some holiday days to take, he said: "I'd rather be here than be on holiday."

Tips for parents

- Keep your child in college for as long as possible. It maintains a routine and college has contacts – it can open doors that individuals can't.
- Support your child in every way you can.
- Pop in to see them at work now and again and talk to their employer. This can alert you to issues you may be able to help with and thereby prevent more serious problems.

Tips for employers

- With a little adaptation, people with autism become a reliable, valuable asset.
- There are hundreds of jobs that need routine. People with autism don't mind, and take pleasure in it.

Views from the workplace

Tesco and Morrisons would both consider supported internships in the future.

Denise Vinton from Tesco describes her experience with Adam, who has autism, dyslexia and a moderate learning difficulty. 'Adam is treated as an equal by his team and integrated really well thanks to a great deal of support from the college,' she says. 'The other employees were wary at first, as they did not fully understand what their role would be. But with the passing of time, seeing how eager he was to get on, they became quite protective of him and worked well with him.'

“Without supported internships, our students might have to rely on the care system to support them”

The branch had not previously considered someone with Adam's difficulties, due to ignorance of what his needs would be. They were pleasantly surprised by his capabilities and how he thoroughly enjoyed his job. So much so, Adam has now joined the firm as a paid member of staff.

'My advice to potential employers would be to ensure that the team working with the student has a clear understanding of their condition so that they can support them when college staff are not there,' advocates Miss Vinton. 'Training from

the college should also continue until the student is fully confident. Regular reviews will also help their confidence grow.'

Meanwhile at Morrisons, Gemma Webb describes Matthew as a team player who tries to the best of his ability – always smiling and cheering his colleagues. She suggests that employers identify the strengths and weaknesses of interns quickly so that they can develop the individual to fulfil their role. 'Working with Ms Bruckland laid the groundwork to make the internship work,' she says. 'Challenging to begin with, but with support in place, it was easy for the team to adapt and help Matthew learn all the skills he needed. It is ultimately rewarding.'

Benefits to everyone

Ms Bruckland acknowledges that she brings persistence, confidence and an outside view to her role, but believes others can emulate the college's success. She also believes that without the supported internship programme, only two of her cohort of 11 would be in work this year.

A report by the National Audit Office estimated that supporting a person with a learning disability into employment could increase their income by up to 95% compared with what they might receive on benefits. Not to mention the emotional benefits of belonging to a team rather than staying at home with nothing to do all day, or becoming isolated as carers age or die.

'For every condition there is a job, she says. "Those with ADHD are happy in busy environments; those with autism repeat work to the same standard each time and will never think: "Oh, that will do" if shown properly at the start.'

'Without supported internships, our students might have to rely on the care system to support them,' she adds. 'Yet interns have demonstrated that they can even get their fellow team members working harder and more cohesively than they did before. They feel cared for and valued as human beings in their own right. That is quite different from being cared for by someone who is paid to do that job.'



Karen Russell-Graham is a freelance writer

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Pupils' facial expressions and body language show they are paying close attention to what their peers have to say



Speaking and listening are as important as reading and writing... discuss

Oracy lies at the heart of the curriculum at School 21, an all-through comprehensive free school in Stratford, east London. **Alison Thomas** finds out more

It is assembly time at School 21 and today's opening theme is displayed on the screen: 'Stratford is a better place because of the mix of cultures who call it home.'

But this is not the cue for an adult to deliver a monologue to rows of children who sit listening – or not, as the case may be – in obedient silence. This is the cue for active participation, where every voice is heard.

'Put your hand up if someone in your family comes from somewhere else in the world and has come to London to live,' says the teacher, and a shower of hands demonstrates the relevance of the topic to the children's everyday lives. 'Could you now turn to the person next to you,' she goes on, 'and have a discussion about this talking point.'

A babble of purposeful talk fills the air, animated faces and expressions of intense

concentration indicating that pupils are listening carefully to their partner and endeavouring to take their ideas on board.

'I think Stratford is a better place to live,' begins one little boy, 'because they are not against anyone and they...'. 'Can I just clarify something,' his partner interjects. 'What do you mean by "against"?'

Collaborative discussion

As the session continues, a more provocative statement appears on the screen: 'Some cultures are better than others', supported by sentence stems to facilitate active listening and collaborative discussion. 'I disagree because...' 'Linking to...' 'Taking that further...'

The pupils are only in Year 3, but already they demonstrate a clear understanding of the guidelines for meaningful discussion they have drawn up with staff.

- Always respect each other's ideas.
- Show proof of listening.
- Clarify, challenge, summarise, and build on each other's ideas.
- Invite someone to contribute by asking a question.
- Be prepared to change your mind.
- Come to a shared agreement.

Talk is not just reserved for assembly time, however. Listening and speaking skills are explicitly taught in discrete lessons and practised in every classroom, where teachers have been trained to model and scaffold constructive dialogue, and pupils have acquired the skills to critique each other's verbal contributions in a precise and positive way. Displays in corridors and on classroom walls remind them of the four strands of the oracy framework the school has developed with Cambridge University – physical, linguistic, cognitive

and social/emotional (see page 25); posters reinforce the six attributes it believes they will need to cope with the challenges of tomorrow's world: expertise, professionalism, eloquence, grit, spark and craftsmanship.

A noisy education not a silent one

Preparing pupils for tomorrow's world was the core mission of School 21's co-founders when they opened the all-through school in 2012. Dismayed by the narrow remit of the current regime, with its relentless focus on exam results, they sought to rebalance head (academic success), heart (character and emotions) and hand (generating ideas, problem solving, making a difference). Wellbeing is central to the school's approach; project work driven by real-life outcomes is another key feature. Underpinning everything is a whole-school culture of nurturing oracy.

'We need a noisy education not a silent one,' co-founder and executive headteacher Peter Hyman wrote in *The Observer* on 26 February. 'A noisy education is one where we elevate speaking to the same status as reading and writing. Where we allow young people... to find their voice and help them grow in confidence and articulacy. It is a place of curiosity and questioning, debate and depth of understanding... [where] children of a young age learn to wrestle with moral issues, explore difficult concepts and hone their arguments.'

Oracy within and beyond School 21

The school's innovative approach has not only enhanced pupils' eloquence, confidence and wellbeing, it has had



A child demonstrates that he has understood the importance of gesture and posture, facial expression and eye contact

a direct impact on their academic attainment. This was corroborated by an outstanding Ofsted report in 2014, two years after the school opened, which described it as an 'exciting place to learn' where 'a strong focus on oracy strengthened the quality of teaching' and 'made a significant contribution to the high standards that all pupils achieve.'

In the meantime, supported by the Education Endowment Fund, School 21 had continued to work with Cambridge University to develop and refine its oracy curriculum and resources with a view to sharing these with others. Also published in 2014, the EEF report concluded that, while the school's approach was fulfilling its promise in its own context, further research would be required to establish how other settings might implement it and identify the opportunities and barriers they might face.

This is now being addressed through a second EEF project led by Voice 21, which has been set up to campaign for oracy to be taught in schools nationwide and provide support for those interested in taking on the challenge. Since September

2016, 11 schools around the country have been trialling the framework, resources and assessment toolkit in Year 7, with training and ongoing support from Voice 21. The pilot runs until July 2017 and the report will be published in spring 2018.

'Oracy can get lost with all the pressures of the curriculum,' explains Rebecca Earnshaw, director of Voice 21. 'It is not assessed, so it doesn't have currency: there is no way of tracking it or recording progress, no writing in the children's books. Like anything, it takes time, planning and structure. Schools lack a common understanding of what they believe oracy to entail and lack the tools to deliver it.'

'These things have been put in place by Voice 21. How talk is used to develop learning: learning *through* talk and learning *to* talk.'

Providing structure

One thing that often holds teachers back is the concern that some children will find classroom talk very stressful, while others will take advantage of the opportunity to prattle on and dominate discussions.

'Telling students to talk to their partner is not enough,' says Ms Earnshaw. 'You need to think carefully about how you plan it and structure it. Give students a role – you can be quite strategic about this. Depending on the child, you might ask them to be the summariser, so their role is to listen, and then talk at the end.'

'By the end of Year 7, all of our students deliver a five-minute talk without notes to an audience, but that is the culmination of a whole year's work; lots of preparation has gone into it beforehand. Even those you might think would find it difficult do it, and do it well. When classrooms are rich in language, students with language difficulties benefit. Being immersed in talk is good for them.'

'Because it's part and parcel of what we do every day, it's not high stakes,' she adds, 'It's OK to make mistakes or get your wording slightly wrong first time. That is how you develop your learning. One of our core attributes is craftsmanship, working on something over and over until you have honed it.'

'Oracy is a vital skill for life and is greatly prized by employers,' she concludes. 'No one would ever suggest: "You don't need to learn to write"; "You don't need to learn to speak" is just as nonsensical. That's why we settled on the term oracy. It puts speaking and listening on an equal footing with literacy and numeracy and implies there is a pedagogy, that the skills can be taught – and *should* be taught.'



A child talks while another records what they have to say

Shifting a school culture

‘A happy, contented burble,’ is how Bec Tulloch of St Ambrose Barlow RC High School in Swinton describes her first impressions of School 21 when she visited in January 2016. ‘Everywhere you went, there was a wonderful, purposeful hum.’

The contrast with her own school was stark, where a review day had identified serious weaknesses in oracy and group work across all departments.

‘There was a sense that we nurture a well-behaved, submissive child who wants to come into the classroom and sit quietly and do what we tell them to do,’ she says. ‘That we don’t nurture independence of learning or independence of thought, we don’t create learners who own their own learning. And we had reached a ceiling of the level of attainment our students could achieve with that kind of approach. What we needed was to find a new strategy that would push all of us, staff and students, beyond that.’

Boosting literacy skills

St Ambrose is one of the 11 schools participating in the EEF pilot and drama specialist leader Bec Tulloch is the oracy lead. She had already identified literacy as the focus of the whole-school initiative she would lead as part of her National Professional Qualification for Senior Leadership when her headteacher suggested she visit School 21.

‘Literacy is a huge concern for our school, which serves an area of significant social deprivation,’ she explains, citing by way of example a recent discussion with her A-level group. ‘We were talking about segregation and when I asked a student: “What is the difference between you and me?” she replied: “You know the big words. I don’t.” That’s at A-level. We have to challenge that. We have to get rid of that divide.’

Through her research, Ms Tulloch had become increasingly convinced that developing students’ oracy skills was fundamental to improving their literacy. ‘We think of literacy as reading and writing,’ she says, ‘but talking and listening are a crucial part of the facilitation process, the first step on that journey. As students get older, we tend to create a false academic divide between the two. By activating talking, you activate reading and writing and academic engagement.’



Students at St Ambrose Barlow RC High School discuss a talking point with a partner

“Gone are the days when no one ventured to speak”

Setting the scene

Following her initial visit to School 21, she was invited to apply to join the EEF pilot. When her application was successful, she returned to the school in July 2016 for her first training session. Then the real work began as she started planning how she would implement the three strands of the project.

1. A discrete oracy lesson every week.
2. CPD to develop a whole-school culture of collaborative talk that would be used consistently in all lessons.
3. Restructuring assemblies to ensure that students and staff were creating a culture of positive talking.

A gradual process

In a school not accustomed to engaging students in dialogue, she felt it was important to introduce the core principles gradually, and then systematically build things up, layer on layer. So for the first half-term, she drew up a programme comprising five simple steps.

- **Step one:** Everybody is heard in every lesson.

- **Step two:** Everybody makes eye contact and engages in positive talk with the teacher and another student.
- **Step three:** The three Ms of listening are activated in the classroom: me-listening (listening to yourself rather than to the other person), micro-listening (following the words but only superficially), macro-listening (absorbing everything, including things which may be unspoken or conveyed through tone of voice or facial expression).
- **Step four:** Everybody speaks in full sentences using an appropriate register.
- **Step five:** Everybody extends their answers.

That led into types of talk (see page 28), which led into Harkness discussion (see box on page 24) and finally debate. This term sees the culmination of the whole process when the students will be carefully preparing, honing and rehearsing a short presentation to be delivered on speech day.

The discrete oracy lessons, which are delivered by herself and two English colleagues, run in tandem with staff CPD, so that when students acquire new skills, staff can provide opportunities for them to develop and extend these. Staff have also been trained to support students to actively participate in

assemblies. Gone are the days when no one ventured to speak, or if they did it was barely audible. Today, students make presentations in groups of six with cue cards to support them and perhaps some of their classmates organising accompanying activities. Visual aids are kept to a minimum so that the focus is on the students' words and how well they get their message across.

Putting students in the stretch zone

The process of evaluation will take place this term when Ms Tulloch will be conducting a lot of pupil/teacher/parent voice activities, observing lessons and scrutinising students' books to gather all the evidence. But although it's too early to provide an objective verdict on impact, she can see it in the students' growing confidence, the clarity of their delivery when they talk and their greater willingness to engage.

Some are less enthusiastic than others, however. When she was doing student interviews last term, one student with SEND told her: 'I don't enjoy it. I find it really hard. But I recognise I have to do it,' while another commented: 'The two subjects I like least are oracy and MFL,' and when asked why, replied: 'Because I can choose to keep quiet in the other lessons.'

'We shouldn't be allowing that,' says Ms Tulloch. 'We are letting them stay in their comfort zone when we should be providing them with just the right amount of challenge to move their learning on. We talk to the students about this: the best learning happens when you are slightly uncomfortable – not so uncomfortable that you might go into panic mode, just enough to stretch and extend you.'

'What I like about the oracy curriculum is that it provokes awareness of the social and emotional needs of the child,' she goes on. 'We tend to focus on the cognitive as a rule. When you are organising groups, you have to think about managing social interactions and emotionally supporting the learner to create the right conditions that will lead to increased performance.'

Challenging staff

If oracy pushes the students out of their comfort zone, it does the same for staff and again, some have found that harder than others. One example of this was when she introduced them to the Harkness process, which they then experienced for themselves when they spent a morning in cross-curricular groups discussing the outcomes of a

Harkness discussion

There are three identified roles at the table.

- **A chair**, who ensures equity of opportunity within the debate.
- **An observer**, who records the interactions as a diagram.
- **A notetaker**, who records prominent ideas and themes from the discussion to be shared.

Modus operandi for all participants

- Listen carefully.
- Don't address the chair.
- Make eye contact with the person whose points you are addressing.
- Look around the table; let people know that they're included. Use names to focus interaction.
- Stick close to the text in discussion. Keep the text open.
- When appropriate, be prepared to cite specifics in the language of the text to support, challenge or question. The discussion is not a test of memory, but should lead to memorable points.
- Don't raise hands; take turns speaking.
- It is OK to 'pass' occasionally if asked directly to contribute.
- Affirm comments made by others. Encourage others to clarify or expand ideas that might be foggy. Ask for more information or further explanation.
- Don't hesitate to summarise. Discuss ideas rather than one another's opinions.
- Challenge politely if you disagree. Let others finish phrasing a question or developing an idea before you jump in.
- Clarify a difference of opinion first.
- You are responsible for the success of the discussion. Prepare and participate thoughtfully. Don't blag if you don't know; admit it and move on.
- Ask each other: Can we summarise the discussion so far? Did we take it as far as it could go? Are we content?

The best learning happens when you are slightly uncomfortable

recent Ofsted report.

'There were a few members of staff who said: "I'm much happier with CPD where I come along and you talk and I listen," she says. 'That's not how you make a school better, so it forces staff out of those unhelpful positions as well.

'One of the things I loved about School 21 was the symmetry of how what they provide for their students they also provide for their staff. They use coaching with their children, they use coaching with their staff; they have the Berger theory of ethics of excellence for students and staff alike. There is a sense that everybody is engaged in the same process and that everybody shares responsibility. I think that is incredibly empowering for staff, but it is also incredibly empowering for learners.'

The beginning of a journey

In terms of deep culture change, she sees

this year as the start of a long journey, especially when you consider the depth of the calm, quiet culture that prevailed at the outset. 'There has to be a real shift in terms of how lessons are led and developed and that will take time,' she says. 'There is a lovely blog by Tom Sherrington where he compares trying to change the culture of a school with trying to turn a tanker around. I identified with that image, because it's huge.

'That said, we have come a long way in just two terms. Everybody knows it makes sense and everybody is talking the right language. And we have seen so many life-affirming results that we have the commitment to carry on.

'That in itself is incredible. How many initiatives are brought into school where teachers are just cynical, turn their backs, and don't want to know? Not with this.'

FIND OUT MORE

- **School 21:** www.school21.org.uk
- **Voice 21:** www.voice21.org
- **CPD:** Voice 21 Oracy Development Day, London, 18 May 2017. www.voice21.org/cpd-opportunities
- **Videos of School 21 in action:** <http://bit.ly/sc236-17> and <http://bit.ly/sc236-18>

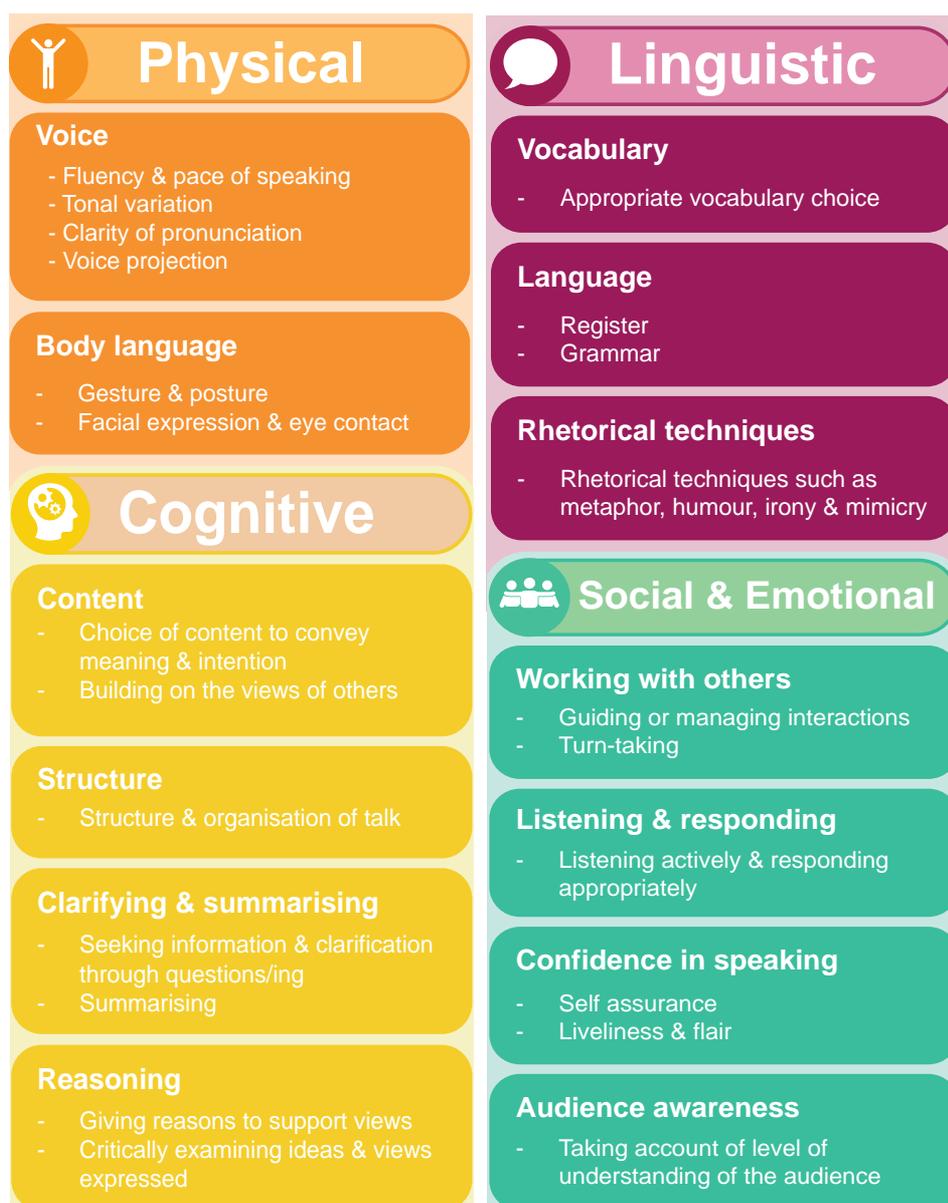
Protocols and strategies for positive talk

The article on pages 21-24 features the groundbreaking work of School 21, which has developed a curriculum framework, resources and an assessment toolkit to support schools to place talk at the heart of their learning. The following pages contain a few key examples.

Oracy: The four strands

School 21 uses the following framework to teach and evaluate students' communication skills.

The oracy framework isolates the core components of spoken communication, breaking them into four different areas: linguistic, physical, cognitive, and social & emotional.



Groupings and activities



Groupings



Nest
Students stand apart and whisper their ideas to themselves



Circle (of 6 to 12 students)
A group of six students face each other in a circle. Pupils step inside the circle individually and speak to the group, considering their audience, maintaining good eye contact and using appropriate body language.



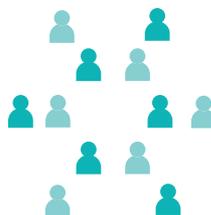
Pairs
Two students talking together



Onion
Students form an inner and outer circle. Up to six pupils stand back to back in the inner circle, with each facing a partner on the outer circle.



Trios
Three students talking with each other. Two students have a discussion while the third observes then summarises and critiques



Coaching Onion/Fishbowl
A coaching onion is a useful tool for switching discussion partners as pupils on the inner circle can rotate to face someone new. It also allows students to contribute ideas to a larger group without worrying about speaking to them all at once. A fishbowl enables the outer circle to observe the inner circle's discussion.



Traverse
Pupils stand in two parallel lines opposite a speaking partner.

Protocols for group talk



Size	Method	Description	Context
Solo	Whisper to a friend...	Individually, students whisper concerns/questions in a conversation to an imagined friend. One person at the front turns back. When they turn around, everyone stops whispering.	<ul style="list-style-type: none"> • Distilling ideas • Developing initial ideas
Pair	Think - Pair - Share	Individuals formulate ideas independently, before sharing with a partner. Pairs then feedback to whole group.	<ul style="list-style-type: none"> • Presenting initial ideas • Brainstorming
Pair	'I bet you're thinking...'	Students are provided with sentence stems to help them explore and refine each other's ideas. Sentence stems might include: What's the question? I bet you're thinking... I'm dying to tell you... We both agree that... What I don't get is...	<ul style="list-style-type: none"> • Exploring others' ideas • Clarifying/refining ideas • Summarising
Pair	Sage and Scribe	One person instructs while the other listens and writes what they are being told.	<ul style="list-style-type: none"> • Refining ideas • Developing understanding of a concept • Summarising
Trio	Talk Trio	Students assign themselves A, B or C. A & B talk, C observes and summarises	<ul style="list-style-type: none"> • Refining ideas • Problem solving



Protocols for group talk

Size	Method	Description	Context
Small group (5 - 6)	De Bono's Hats	Students adopt the characteristics of one of De Bono's six hats to help manage and structure their discussion.	<ul style="list-style-type: none"> Challenging an idea Exploring a concept
Small group (5 - 6)	Specific Roles/ Hats	Students are provided with specific roles to help manage discussion and make sure that everyone gets an opportunity to speak.	<ul style="list-style-type: none"> Problem solving Working towards a solution/shared outcome
Small group (5 - 6)	Questioning Ladder	To help structure talk for comprehension and problem solving, students follow the questioning ladder: Predict, Explain, Describe, Compare, Create	<ul style="list-style-type: none"> Refining ideas Developing understanding of a concept
Small group (5 - 6)	Speak Once, Then Hold Your Peace	To ensure that everyone gets a chance to speak, students speak in turn once before passing on to the next person.	<ul style="list-style-type: none"> Presenting initial ideas Brainstorming
Medium group (6 - 12)	Chaired Discussion	One student leads the discussion making sure that a balance of views and ideas are heard and that the discussion stays on track.	<ul style="list-style-type: none"> Presenting initial ideas Brainstorming Problem solving
Medium group (6 - 12)	Harkness	A round-table discussion to explore and develop understanding of a topic. The discussion contributions are mapped by the teacher or an observer to make sure that everyone has the opportunity to speak. Students can be given roles to help structure the debate.	<ul style="list-style-type: none"> Sharing and refining ideas Developing understanding of a concept
Medium group (6 - 12)	P4C	Philosophical, exploratory talk, guided by a facilitator. Specific training for P4C can be found at www.P4C.com	<ul style="list-style-type: none"> Sharing and refining ideas Developing understanding of a concept
Medium group (6 - 12)	Questioning Categories	Students can be assigned certain question types depending on what type of information they're seeking. Example question types include: Essential, probing, provocative, clarification, strategic	<ul style="list-style-type: none"> Developing understanding of a concept
Mid - Large group (6 - 25)	Pass and Go	Every student speaks in turn, passing on to the next student once they have contributed their idea to the group.	<ul style="list-style-type: none"> Sharing and refining ideas Brainstorming Summarising
Mid - Large group (6 - 25)	Chain of Response	Students speak in turn, adding their response by first using given sentence stems. Sentence stems might include: <i>As well as this...</i> <i>In addition...</i> <i>However...</i> <i>This is because...</i> <i>...which suggests that...</i> <i>it could also be argued that...</i>	<ul style="list-style-type: none"> Sharing and refining ideas Developing understanding of a concept

Types of talk

These are the different roles that students can play during group discussion to ensure they work together productively.



Talking Roles



Instigator

The person who starts the discussion
Will say:
 "I would like to start by saying..."
 "I think the first thing we should consider is..."
 "To begin with let's talk about..."



Builder

Develops, adds to or runs with an idea
Will say:
 "I agree and I'd like to add..."
 "Linking to your point..."
 "Building on that idea..."



Challenger

Disagrees with or presents an alternative argument
Will say:
 "That's true, but have you considered..."
 "You mentioned X but what about..."
 "I hear what you're saying, but..."



Clarifier

Makes things clearer and simplifies ideas by asking questions
Will say:
 "What do you mean when you say..."
 "Could you tell me more about..."
 "Does that mean that..."



Prober

Digs deeper into the argument, asks for evidence or justification of ideas
Will say:
 "What evidence do you have to support that?"
 "How does that support your argument?"
 "How did you come to that conclusion?"



Summariser

Presents reflections on the discussion. May offer a conclusion or balanced assessment of the main points
Will say:
 "Overall, the main points covered were..."
 "In summary..."
 "From today's discussion, it's clear that..."

Teacher tip from St Ambrose Barlow RC High School

Students shouldn't feel the need to stick to one role. The ultimate goal is for students to recognise these roles, become confident with them and be able to take any number of them within a discussion.'



Students at School 21 have the confidence to stand up and speak, and speak well, thanks to many hours of structured practice

FIND OUT MORE

- www.voice21.org/voice-21-resources



The playground at Flyford Flavell First School is happy, safe and inclusive

If I can do it, anyone can

Self-belief, mutual support and a culture where every child feels valued underpin the success of a first school led by a dinner lady turned headteacher.

Alison Thomas investigates

Independence, curiosity, cooperation. Concentration, perseverance, reflection. These are the six learning powers that drive education at Flyford Flavell First School near Worcester, where children are encouraged to display them in the classroom every day.

It starts in Reception, where they explore the first three, learning what each word means and what it looks like in the classroom. Concentration is added in Year 1 to help them focus in lessons and in Year 2 they complete the set with perseverance and reflection. There are explanatory boards in the classrooms, with written explanations for the older children and photos for the younger ones. Every time they demonstrate a learning



power in their work, their name is put on the board and they receive a praise sticker.

'It's not about how many sums they got right, it is about how much effort they have put in and how much progress they have made,' says headteacher Rosalind Brotherton. 'That comes down to

perseverance – hanging on in there even when it's tough – and reflection – taking on board the feedback we give them when we mark their work and embracing the next steps. When the school culture is right, every child can achieve them – and they do.'

Learning powers in action

She certainly possesses them herself in abundance and her journey from dinner lady to school leader is a shining example of how powerful they can be. All the more so as she has led Flyford Flavell from an Ofsted judgement of 'requires improvement' soon after she took up her post in 2014 to 'good' across the board two years later.

'Just go for it. Just do it. One foot in front of the other. Really give it a go and be successful,' is how she summed up her approach in an interview for ITV's *Good Morning Britain* in January 2017 when her remarkable success story attracted the interest of the national press. 'I went from a few miserable CSEs to my degree with the Open University. So I think if I can do it, honestly, anybody can. It's just finding your thing, your thing that you love. For

Aspiration and inclusion

me that was teaching and children, but it could be anything.'

Insights born out of experience

Ms Brotherton's own lack of success at school and the demands of juggling work and study around the needs of three children much later in life lie behind her determination to create an environment where every child is inspired by learning. She also brings with her insights gleaned from her experience, first as a dinner lady, then as a learning assistant, classroom teacher and finally assistant headteacher, on her way to the top.

'I am very aware of the stresses and strains of all the different roles,' she says, 'but whatever position you hold, what matters more than anything else are your relationships with the children. That applies to the lunchtime supervisor as much as to any other member of staff. They have so much potential to do good and build really rewarding relationships because they see the children at informal times. This then has a direct impact on what happens in the classroom, because a child's wellbeing is intrinsically linked to good progress in education. The two go hand in hand.'

She also highlights the immense responsibility of lunchtime staff, as it is their job to ensure that children are happy and safe. 'If a child is vulnerable for any reason, it's when they leave the structured environment of the classroom that their anxieties are most likely to surface,' she says. 'Midday supervisors can make the difference between a happy child and a distraught one. I think people often underestimate the complexity and importance of their role.'

A safe and happy playground

At Flyford Flavell, supervisors have been trained to teach the children how to play well together and organise a wide variety of games that will keep them busy and active. Like all staff, they have also had SEND awareness training so they understand the best strategies to use with children who need support with their behaviour.

For a child with PDA, for example, they will offer choices so the child doesn't feel they are being controlled: 'Would you like to play this game here with us or would you rather join those children over there?' (For more on PDA, see *Condition insight* pages 38-41). At the same time, they are sensitive to the needs and preferences of each individual. 'Sometimes a child may be happily involved in their own imaginative play and it's important to respect that,' says Ms Brotherton. 'If



Rosalind Brotherton and her pupils enjoy a book together

they want to play alone or have a certain game they want to play, you have got to empower them and let them have a voice.'

Meanwhile, if midday supervisors become aware that something is troubling a pupil, they will deal with it themselves unless, of course, it is a safeguarding issue. 'We have the ethos that if a child wants to confide in you, you accept the compliment and listen to them,' says Ms Brotherton. 'Often they just need help with minor issues around playtime or friendships, things that seem small to a grown-up but can cause a great deal of anxiety to a child.'

An inclusive classroom

The same emphasis on creating a safe and happy environment applies in the classroom, where pupil wellbeing is central to all that goes on. A lot hinges on knowing the children really well, including things that might be affecting them at home. 'We look at the whole family and the lived experience of the child,' explains Ms Brotherton. 'There is no detail that matters to the child we wouldn't want to be aware of. If they have lost their favourite teddy or their hamster has died, we want to know.'



Experimenting with music is fun

She is passionate about inclusivity and ensuring that every pupil feels valued, which is why you will never see classes organised in fixed ability groups. 'If you have five tables, even if you give them innocuous names like squares and circles, the children soon pick up that the squares table is where the clever children sit, which is very demoralising,' she says.

One way the school tries to get away from this is by changing the children's learning partners every week; rather than assigning them a fixed place, staff draw up a new seating plan each week so that everyone gets to work with a wide range of partners.

The children are also taught – and it is a skill that takes time to acquire – what she calls guided differentiation. 'We still set work at different levels,' she explains, 'but we discuss with the children which task they feel confident with and guide them to choose the one that will be right for them. It works really well; it doesn't put a ceiling on things and children of all abilities are very keen to challenge themselves. At the same time, if they come across something they find difficult, they can adjust what they do accordingly. I had a very clever young man in maths who was struggling with time, so he went for the middle ability work.'

Valuing every contribution

The school's good results in reading, writing and maths bear testimony to the effectiveness of her approach, but she lays just as much store by subjects that don't get measured, like music, drama and sport. In addition, there are clubs galore and the high levels of attendance show that children relish these enriching

activities, which provide another opportunity to praise them for qualities that don't come under the umbrella of academic prowess.

'Every child has unique strengths and talents,' she observes. 'We have a celebration assembly every week with a different focus each time. Sometimes we praise people for being a good friend, because being kind to other people is a really important skill. And, of course, we regularly praise good learning powers. That links to our behaviour management policy, which is a positive behaviour management policy. So when all those things come together, it makes for a happy, healthy school.'

Ensuring TAs have maximum impact

Ofsted's praise for the school includes the observation that 'skilled teaching assistants work effectively alongside teachers and make a strong contribution to improving pupils' progress.' When asked how she has brought this about, she puts it down to a combination of well-targeted training and ensuring that they are well supported in their role.

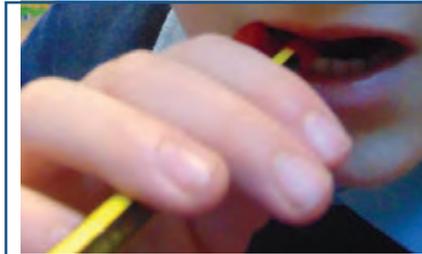
'We have TA meetings at least every two weeks where they share good practice and talk about the children they are working with,' she says. 'You can't underestimate the power of dialogue. In a crowded curriculum, it can be hard to make time for this but it's too important to be neglected, so you have to find a way.'

TAs also communicate regularly with teachers, both face to face and through class folders where they record what they have been doing and how effective it has been. If a teacher has planned something and it isn't working, the TA will be open and honest about this, paving the way for a conversation where they explore together why it's not having the desired impact and what the solution might be. 'It comes back to relationships again,' says Ms Brotherton. 'When you have good working relationships, people can have that voice.'

Interventions for all

The same passion for inclusivity that prompted her to reject fixed ability grouping lies behind her approach to interventions. Depending on individual need, some of these will be short bursts while others will be longer term. But whatever the length or the focus, they are not just for pupils with SEND, they are for everyone.

'We have a culture of valuing getting better; the children know they will be



Pencils

On your pencil you must not nibble,
Otherwise it will get covered in your dribble.
Chewed up pencils aren't very nice.
We don't want to tell you twice.
Pencils are not nice to eat.
Find some other tasty treat!



Felt tips

Put the lid on, you know you should,
And we will think you are really good.
If you don't, we will think you are bad,
You will really make us mad.
All our pens must be right,
Then they will stay nice and bright.

praised for that,' explains Ms Brotherton. 'So they don't see interventions as something for learners who are struggling academically, they see interventions as something that helps everyone to break down their own personal barriers so they can take the next step.'

'You might have a child whose writing is superb, full of rich vocabulary, all correctly spelt and punctuated, but it's very hard to read. That would call for a short intervention on handwriting. Pupils of all abilities have barriers, so when a child goes for an intervention, they don't feel it's because they are no good at something, they feel it's about helping them to get better.'

“ **A child's wellbeing is intrinsically linked to good progress in education** ”

Pupil voice

Staff are constantly striving to get better too, and pupils play a key part in this as the school's formal monitoring systems include a significant element of pupil voice. 'Obviously we look at books and observe lessons, but we spend a lot of time listening to the children,' say Ms Brotherton. 'They are the ones who are living the experience. Children are very honest and can shed light on things we would not have realised otherwise.'

An example of this was when feedback from pupil interviews prompted staff to reconsider the sort of work they set to develop children's writing. 'A lot of the teachers scaffold learning by giving pupils a story and asking them to rewrite it, or to adapt it with a little twist of their own,' she explains. 'However, some of

the children said they would like more opportunities to start their own stories from scratch. We thought we were being helpful by making things safe and familiar for them. When you listen to pupil voice, good things can happen.'

Pupils are equally influential in improving things around the school, as happened when the school council noticed that the school's pens and pencils were in a sorry state and decided to do something about it. They approached Ms Brotherton for permission to do an assembly, then went round the school to take pictures of the offending items and put together a presentation with a little rhyme and a song.

'I think children learning from each other is very powerful,' she says. 'If an adult tells pupils to look after school equipment, they can switch off a little. When it's their friends who are delivering the message, and in such an engaging way, it's a different story.'

A happy school is an inclusive school

If proof was need that Ms Brotherton has created the culture she was aiming for, it is provided by the results of a pupil questionnaire, another initiative instigated by the school council. When asked if they enjoyed school, 100% of the children said yes. When asked if the grown-ups in school cared about them, and if they learned a lot in lessons, again the response was 100% positive.

'We try really hard to make it a lovely experience for them,' says Ms Brotherton. 'You can't have education focused exclusively on reading, writing, maths and science. It's got to be about enrichment, a love of learning and of coming together as a group. A happy school is an inclusive school, where every member of the school is valued. That applies to staff and pupils alike.'

By manipulating concrete materials, children at Belleville Primary School, London, explore the meaning of 'on top of', 'underneath' and 'next to'



All pictures from *Maths No Problem!*

Inclusive maths for learners with dyscalculia

The hands-on, exploratory nature of Singapore maths takes the fear out of maths for learners with dyscalculia, says **Judy Hornigold**

'I hate maths.' 'I'm rubbish at maths.' 'Never mind, son. I wasn't much good at maths either when I was at school. Don't let it get you down.'

You hear this all the time in the UK. But it's not something you will ever hear in Singapore, where it is simply not acceptable to perform badly in maths, let alone admit to it with such lack of concern.

'So what about dyscalculic learners? How do you deal with maths anxiety?' I asked a teacher when I visited some of the city-state's schools to find out more, only to be met with a blank stare. 'Come on,' I persisted. 'You must have some children who hate maths.'

Apparently not. 'The way we teach it is so hands on and so exploratory,' he explained, 'they don't worry if they make a mistake or don't understand something,

because they know they will get there in the end.'

I reflected on the contrast with traditional practice over here. 'Get the answer right!' 'Do it in your head!' 'Do it quickly!' No wonder children as young as six decide maths is not for them, an attitude that stays with them for the rest of their schooling.

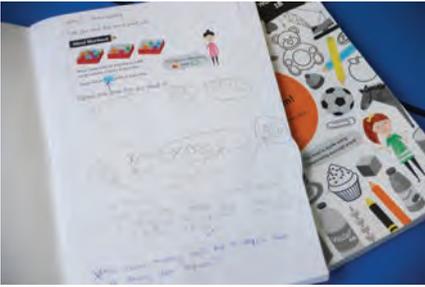
Singapore maths and dyscalculia

There is nothing inherently new about Singapore maths; a lot of it is based on research we have known about for years by experts like Jerome Bruner, Richard Skemp and Jean Piaget – people teachers will be familiar with. What's different is the way it has all been put together. In essence, it revolves around problem solving, starting with a major

emphasis on developing number sense, understanding how numbers relate to each other and what you can and can't do with number. The very thing that children with dyscalculia don't have.

It's a very hands-on approach, using concrete materials that children can see and physically move around. At the same time, they are encouraged to reflect. What does this maths actually look like? What's the concept? What might that tell us about something else? How does it relate to other areas of maths?

I think that is what dyscalculic learners really need. In a conventional lesson, they are taught to apply rules and procedures, but even if they manage to get the right answer, they haven't a clue what is actually going on. When you don't understand, you start saying: 'What's the point?', then boredom sets in, but



Explaining how you have worked something out is a crucial part of the Singapore maths approach

you just get on with it because you have to. Actually enjoying maths is out of the question.

For me, that is what makes Singapore maths so effective. When children can see the purpose of what they are doing, they begin to appreciate the beauty in maths and realise what a fascinating subject it can be. Rather than being told: 'Here's the method. Here's how to do it. Now you have a go. If you get it wrong, try again.'

Mixed-ability groups

Another key feature of Singapore maths is whole-class teaching and mixed-ability groups. That can strike terror into the hearts of teachers, long accustomed to grouping children by perceived ability, accelerating the top group onto new content while the bottom group goes back over old ground. As time goes by, the gap between the two groups widens, making it well-nigh impossible to even contemplate bringing them together again. In the meantime, a 'bottom set' mentality will have set in; the class will have divided itself into those who 'can' and 'can't' do maths. The die will have been cast.

Singapore maths, in contrast, moves everyone through topics at broadly

the same pace, and differentiation is achieved by challenging those who pick up a concept quickly to explore it in greater depth. Meanwhile, their classmates will be consolidating their basic understanding. At the same time, however, because they are working in mixed groups, they are being exposed to higher-level thinking. Even if they don't take it all in at the time, seeds are being sown that may bear fruit later.

An example of Singapore maths in practice

Developing number sense with a ten-frame

The ten-frame is a rectangular grid with two rows of five squares. You can make a template in Word and print it out to use with counters, or buy commercially produced ones with little foam cylinders that slot into holes. You could even use ice cube trays or egg boxes – anything with two rows of five. The idea is that the children will be able to visualise the number by filling up the squares.

If we take the number six as an example, you would start systematically by putting five counters along the top and one on the left underneath. But then you want the children to understand that six is six, however it is arranged. They might put two rows of three, or four above two, or scatter the counters randomly across the frame. By moving things around, they are able to start manipulating the number to see how it breaks down into different components, and also how it relates to ten. In this respect, the ten-frame is slightly more useful than Numicon, where each tile is rigid, and doesn't therefore provide a picture of its relationship to other numbers. With the ten-frame, everything is set within the context of ten.

Moving on to calculations

For $9+6$, say, you would give the children two ten-frames, one with nine counters and the other with six, and hope that they would move one from the six across to the nine to make 10 and five. Alternatively, they might take four counters from the nine and put these with the six, which is equally valid. They are free to manipulate the number however they wish to produce a visual representation of the answer.

At this point, you elicit deeper understanding through strategic questioning. 'How many ways can you make 15 from two numbers?' 'How do you know you have found all the possible solutions?' 'What about 150? What two numbers would give you that result?' You are trying to get them to be systematic



A pupil at Brampton Primary School, London, has moved on from the concrete and pictorial to tackle a problem in the abstract

and see how one thing relates to another, but at the same time you want them to be thinking about how they can apply that knowledge to work out other things.

Continuing in a similar vein, you might ask: 'If there are seven ways of making 15, how many ways are there of making 16? Will it be the same? Will it be more? Will it be less?' As you continue to question them, over time they start doing it for themselves. 'Is that the only solution? How many ways can I do it? What if I did this? What if I did that?' That is the ultimate goal. To get them to challenge and question themselves to explore a concept independently.

Of course, for our dyscalculic learners, that is a long way off. But with their ten-frames they have been able to see what six looks like compared to 10, which is helping to develop their number sense. A dyscalculic person wouldn't necessarily know that six is less than 10. The sight of four empty squares leaves them in no doubt.

Judy Hornigold is an independent education consultant specialising in dyslexia and dyscalculia, an associate tutor for the British Dyslexia Association and Edge Hill University and a trainer for Maths – No Problem!

Key strategies

- Get pupils to demonstrate their understanding in a variety of ways, for example, by explaining their thinking to a partner, drawing a picture or building a model.
- Praise perseverance in problem solving rather than getting the correct answer.
- Build children's confidence by getting them to see mistakes as part of the learning process.
- Invite them to look for multiple ways to solve a problem, rather than presenting them with a single method and expecting them to follow it.
- Discuss with them which method they prefer and why.

Adapted from Maths – No Problem!

FIND OUT MORE

- **Watch Judy Hornigold explain more about differentiation and questioning.** <http://bit.ly/sc236-05> and <http://bit.ly/sc236-06>
- **Maths – No Problem!** A leading provider of Singapore maths textbooks, resources and training. www.mathsnoproblem.co.uk
- **Maths Differentiation: Meeting the Needs of All Learners.** Conference from Maths No Problem!, London, 17 May 2017. <http://bit.ly/sc236-07>
- **Dyscalculia and Maths Learning Difficulties.** National conference, London, 29 June 2017. www.dyscalculia-maths-difficulties.org.uk



For the Sensory-being Project, students from Falmouth University's sustainable design course designed new sensory items in consultation with the young people themselves. Here consultant Chloe and her teacher watch to see what is inside the box

One step at a time

Joanna Grace explains how the sensory experiences she creates for people with profound disabilities can be adapted to support children's learning in mainstream education too

The Sensory Projects run on the principle that inexpensive sensory items can become effective tools for inclusion if you have the right knowledge and a little bit of creativity.

I have been running the projects for nearly a decade. My original intention was to develop just one: The Sensory Stories Project – creating inexpensive, richly inclusive sensory stories. But then it became two with The Structured Sensory Art Project – enabling artists with profound and multiple learning disabilities to independently produce works of art – which escalated into three with The Sensory-being Project – creating sensory stimuli that support a type of sensory mindfulness. I am busy on the fourth at the moment and no longer imagine that it will be the last.

Thinking laterally

One of the outcomes of the Sensory-being Project has been Develop Your Sensory Lexiconary conferences, where delegates



Sensory-being Project consultant Hannah explores what is inside the sparkly tube

explore seven sensory systems, learning what types of experiences are most likely to engage each one and how we can present these experiences in ways that develop the complexity of our sensory communications.

Last year all sorts of people came: speech and language therapists, teachers of students with complex needs, trainee teachers, mainstream teachers, parents and carers, portage workers, dementia support group teams... there was even someone from a circus on one of the days. We had such a terrific time and such lively discussions that creating a longer tour this year was inevitable.

One of the things that came out of our conversations seemed really obvious when we started talking about it: if something supports learning for a person with profound disabilities, who faces so many barriers to their engagement, it stands to reason that it will also support learning for someone who faces fewer barriers.

Sight

In order to see, we first have to receive information through the eyes and then process that information in the brain. For individuals whose eyes function but who are not 'seeing', we can support their development by providing them with the visual stimuli they are most likely to be able to interpret.

One of the first colour tones most people can see is red, so a red object on a plain, uncluttered background is a simple starting point. A dark tone is better than a light one because it reflects back less light, making fewer demands on the eyes and allowing the brain's processing capacity to be focused on that single object. Likewise, choosing a matt background will prevent distractions from light bouncing off a shiny background, which might look plain to us but won't appear plain to someone not yet able to decipher the visual environment.

Our eyes have two sets of sensors, one that registers shape and colour and one that registers movement. So if we add a little wiggle to our red object, we send an extra set of messages to the brain, essentially doubling the stimulus and creating a bigger cognitive impact.

It's important at this stage to restrict the movement to one place, however. If we move an object from left to right, say, we are asking the person to not only register the shape and colour, but also to understand and predict its movement, and then to command the small muscles around their eyes to track where they anticipate it might be going. That is far too much for their brain to handle, and for most people starting out with sight, an object that moves across their visual field will simply vanish.

I am going to share three of these crossover examples. But first let me explain the rationale.

Sensory Beings

For most people the sensory world is quickly decipherable; we can look, we can listen, we can feel, smell and touch, and from what we sense we can extract information, which we use to understand the world around us and our place within it. For Sensory Beings (people whose experience of the world and meaning within it is primarily sensory) it is not always as simple.

I often use the analogy of maths to explain this. If I wrote everything I know about maths on a board and showed it to you, you might, with a lot of frowning, be able to work out how to do maths. But you are much more likely to learn if I start with the concept of one and many, and work my way up through counting, addition, subtraction and so on until we reach advanced algebra. For Sensory Beings, being expected to perceive the whole sensory world can be like being asked to learn maths from all the maths on the board.

On the Lexiconary course we learn what the first steps are for seven sensory systems and how to create engaging sensory experiences that target these systems and encourage people up those steps (see box above for an example). But once we have our wonderful, inexpensive sensory resource, what then?

What's in the box?

The next step from just passing someone an engaging sensory resource is to give it to them in a box. When we do this we increase the complexity of our communication, we present them with

a stimulating cognitive challenge to get stuck into.

It is so simple, it is easy to miss it; a person supporting a Sensory Being might swiftly take a resource out of a box and put it within the sight range of that person. If instead they take the box to the person and then open it slowly, so much more learning occurs.

“Having your point of focus hidden from view helps to capture attention”

This idea of a sensory experience in a box is one that transfers. Having your point of focus hidden from view helps to capture attention; it generates questions and asks students to think much more deeply.

In my days as a supply teacher, I had a fantastic old leather brief case that I used to take to school with me. It was perfect for the box trick. I would walk into the room and instantly 30 children



When items are encased in ice, the colours become more luscious, while the cold, slippery surface of the ice offers an interesting tactile experience

would wonder what was inside. I had their attention without having to work for it, and if what I took out of the case had some sort of wonderful sensory property, I kept that attention and built on that focus throughout the day.

Imagine what you can do with this simple change to the start of a lesson. If you are studying history or science and have an artefact to share with the pupils, hiding it from view will get them to think about it in more ways than simply considering its appearance. Exploring the weight of the box, the sound it makes when they shake it, maybe the smell if it has one, will get them thinking about all its properties before it has been revealed.

Curiosity starters

The starting point of all the Sensory Projects is finding resources that will captivate Sensory Beings. But we are all interested in things with unique sensory properties and the sensory nature of experiences makes them memorable. If you have a particularly novel sensory experience, it will stay with you long afterwards; if it is bold and dramatic, like fireworks or a thunderstorm, again it will stick in your mind.

So why not use a memorable sensory experience to start off a lesson or a topic? Find something that stimulates lots of senses in a fascinating way and begin with this. Your students will remember it and it will anchor in their minds the learning that you later attach to it.

Favourite toys trapped inside blocks of ice on the desks would make a terrific introduction to a study of Captain Scott's Antarctic expedition (in water trays or washing up bowls of course). Blocks of ice are beautiful; the ice frozen around the toys will make their colours more luscious, it will be cold and hard to touch and slip around, all interesting to the tactile and proprioceptive sensory systems, and the challenge of how to get the toys out (supply salt, warm water and small tools for chiselling with) will give children insight into the severity of Scott's predicament even before you have mentioned it.

Linguistic Beings

As I talk about Sensory Beings, so I also talk about Linguistic Beings – you and me, in other words, those of us who have acquired and use language. Acquiring language is a big deal cognitively, it restructures the brain and changes the way we store information. The bias it imposes on us is very real. Although we can never escape our biases, we can be aware of them.

Sensory learning

As Linguistic Beings, we also need to be aware that, although words feel very meaningful to us, words do not equate to meaning. There is meaning before words and there is meaning after them. If we view being literate as being able to manipulate words, then we restrict literacy to those people who can use the words we use. But if we view literacy as being able to exchange and manipulate meaning, then we open it up and create a more inclusive literacy.

There are so many different ways you can support your students in learning literacy skills in a sensory way, but for now I am going to restrict myself to one of my favourites: sensory strings.

Sensory strings

A sensory string is a string with clips on; you can buy travel washing lines for about £1 or just use ordinary wool or string and some bulldog clips.

You hang the string along a wall (it's great to do it against the edge of a room, rather than across the middle, if you are supporting learners with visual impairments) and clip various sensory items to it. Each of these when explored conveys meaning to the explorer. They get information from touching them, from hearing the noise they make as they are manipulated, from seeing them, smelling them and so on. You could theme the items; perhaps they could relate to the sequence of a story or a series of answers to a question.

Once you have your sensory string set up, you position a child so that they start exploring from the left, working their way across to the right. As they do this, they



Sensory-being Project consultant Hannah enters a small sensory world with a sustainable design student from Falmouth University

are taking in information from left to right along a line. They are reading!

It is like the box, a strategy so simple that it is easy to overlook it, but there are lots of benefits to be reaped from making something abstract like the line on a page concrete. Many children take a while to understand that these lines even exist and are there to be followed. Indeed, looking at a block of text, their instinct is more likely to tell them to follow the little rivers of spaces meandering down the page than to march from one side to the other in order. Interacting with a physical representation of the line helps children to secure their understanding of the line and its function. This can be particularly helpful for children with dyslexia.

Why sensory experiences matter so much

In my work, the difference between finding just the right sensory experience and not finding it can be the difference between enabling an individual to perceive their world and leaving them in sensory isolation. I have some very treasured memories of times when I have gleaned a response from a child who, until then, had appeared to be incapable of responding. Being able to open up someone's perceptions and begin to show them this startling and beautiful world is a wonderful privilege.

In your work, finding the right sensory experience to go with your lesson may not have the same all-or-nothing outcome. But it is extremely likely that the need for sensory stimulation will be there, whether it stems from a diagnosed condition or is the outcome of modern childhood, where children spend less and less time engaged in rough and tumble and messy play, and more and more time before a screen.

As we grow, having a rich diet of sensory experience allows us to tune our sensory systems to the world around us, until gradually over time, we are able to react proportionately to experience, selecting those we want to focus on and tuning out the others. A child who can sit still and get on with a task is a child who had lots of wonderful sensory experiences growing up. So many children are now starting school with a deficit of these experiences. It is no use simply forbidding them from fidgeting or insisting they concentrate; without the practice, those skills just aren't there.

Sensory experience both underpins and supports learning, not just for those children with very profound disabilities that I work with but for every one of the children in your care too.



Joanna Grace is an international sensory engagement and inclusion specialist



A selection of colourful, tactile resources created or sourced for minimal outlay

FIND OUT MORE

- **The Sensory Projects:** <http://jo.element42.org>, @jo3grace
- **Develop Your Sensory Lexiconary** conferences will run in different locations during May 2017: <http://bit.ly/sc236-16>
- **Sensory-being for Sensory Beings** by Joanna Grace will be published in summer 2017 by Speechmark Routledge
- See also *Insights into Sensory Stories*, *Special Children* 211 and *Structured Sensory Art*, *Special Children* 232



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Individuals with PDA can appear to be very sociable and confident, but learn quickly how to move away from perceived demands

PDA in school

Tigger Pritchard outlines how to support children with pathological demand avoidance (PDA)

Back in the 1980s, developmental psychologist Elizabeth Newson realised that some children being referred for a diagnosis of ASD were presenting very differently from those with classic traits. Nor did they fit the definition of ‘atypical autism’ or ‘pervasive developmental disorder not otherwise specified’ as classified by the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). As a result, she developed her theory of pathological demand avoidance (PDA).

Much has happened since then. In 2007, the National Autistic Society (NAS) recognised PDA as an associated condition and included information on its website. In 2015, with ASD now seen as synonymous with pervasive developmental disorder, the NAS made it clear that PDA was a part of the autism spectrum. Since 2011, it has held regular conferences on the topic. A group of parents set up the PDA Contact Group back in 1997 which became the PDA Society in 2014. Meanwhile, several books have been published on the topic and many online support groups have been started on social media.

More is also being understood about the autism spectrum and this has helped

to show that other issues needed to be taken into account. As yet, there is comparatively little research around PDA, although this is changing. In diagnostic terms, the condition is very new; it does not yet feature in the latest Diagnostic and Statistical Manual of Mental Disorders (DSM-5) or the International Classification of Diseases (ICD-10). However, more and more parents and professionals are beginning to see the need for recognising the PDA profile in ASD.

What is PDA?

Some people believe that PDA is a result of bad parenting, or too much or too little discipline, a fad or related to diet. It is none of these. PDA is a lifelong condition and presents 50/50 in males and females.

‘Pathological’ means that actions that might appear insubordinate are completely out of the control of the individual; they are not being wilful or rude.

Nor can it be regarded as a power game, or being naughty. For the person concerned, a request (demand) might produce a level of anxiety that is beyond anything the rest of us can even begin to imagine.

‘Demand’ means any demand: direct, indirect, implied or consequence. Even internal demands such as ‘I ought to’ are

included.

‘Avoidance’ means that the individual will not be able to do what is asked of them. It is not that they do not want to; they cannot.

To give people a glimpse into what it might be like, during training sessions for school staff I sometimes ask everyone to stand and then announce that I will pick on them one by one to answer a maths question verbally. Although I don’t actually carry this through, I see a sudden increase in anxiety in many people’s faces. In the discussion period afterwards, teachers and TAs alike talk about this rise in anxiety and how fast and uncontrollable it was.

I go on to explain that many everyday aspects of communication and interaction can be highly anxiety laden for individuals with PDA. Even something as non-threatening as ‘How are you?’, ‘Would you like a drink?’, ‘What shall we do today?’ or praise can be difficult for a person with the condition.

The characteristics

Pupils with PDA may:

- obsessively resist ordinary demands
- use social strategies to avoid demands – e.g. distracting and giving excuses
- appear sociable but lack understanding (often recognised by parents early on)
- appear to be listening and even taking part but may be switched off
- have excessive mood swings and impulsivity
- be comfortable (sometimes in an extreme way) with role play and pretending
- try to dominate or control social interactions, especially when they feel anxious
- have behavioural difficulties
- display obsessive behaviour, often focused on people rather than things
- have language delay, possibly as a result of passivity, but there is often a good degree of catch up (although there is less emphasis on this these days as it is not a common characteristic).

(Phil Christie and Margaret Duncan, NAS, 2013.)

Reactions to a demand

Demands may be perceived or actual; the person will resist ordinary demands of life. It is not so much the activity they are refusing, but that someone else is asking them to do it, or even that they themselves really want to do it. They may react by:

- refusing
- incapacitating themselves

- distracting or changing the subject
- ignoring demands or giving a delaying response
- arguing or suggesting alternatives
- mimicking, making noises or drowning out demands
- withdrawing into a fantasy world
- walking away
- becoming aggressive or having a panic attack or meltdown
- making excuses.

Taking control

Typical responses you may hear include the following.

- 'I can't possibly do that now.'
- 'Your necklace is very beautiful; where did it come from?'
- 'My legs will no longer listen to my brain, they are like stone!'
- 'But I have to finish this first.'
- 'Did you know about the Human Rights Act in relation to work?'

Individuals with PDA can appear to be very sociable and confident, but they use their grasp of social skills to 'deskill' or 'depower' a situation. For example, some individuals I have worked with learn quickly how to catch me off guard and are able to rapidly and very cleverly take control and move away from perceived demands. Here are some characteristic examples that have caught me out recently. 'Did you sleep OK last night?' 'Is that still the watch with a compass? It's so cool. What else does it do?' 'Have you seen the weather forecast today? What do you think?'

While there are individuals with PDA who have learning difficulties, individuals are often very intelligent and extremely adept at redirecting demands.

ASD and PDA

Although PDA is on the ASD spectrum (and is also a dimensional condition, so individuals vary) there are some important differences between those with PDA and those with typical autism and Asperger syndrome. Pupils with other forms of ASD:

- find eye contact difficult
- have difficulty with social interactions
- may respond well to rewards and behaviour plans
- can struggle to show empathy and imagination
- find reciprocal conversations difficult
- do not pathologically avoid demands.

Pupils with a PDA profile:

- have better eye contact
- learn to socialise, but will still have

- some underlying difficulties
- like spontaneity and dislike routine
- find rewards and rigid behaviour plans difficult
- are imaginative
- show empathy
- have good conversational skills.

PDA and ODD

PDA is sometimes confused with oppositional defiant disorder (ODD). However, in a small study supervised by Elizabeth Newson that compared children with both conditions, researchers found that the children with PDA used a wider range of avoidance strategies, including social manipulation. In contrast, children with ODD tended to refuse and be oppositional but did not use the range of avoidance strategies. Pupils with PDA are autistic and:

- have difficulties with social interactions, communication and obsessions
- go to extreme levels to avoid demands
- consider themselves adults, even when they are still very much children
- seem to experience higher levels of stress.

Pupils with ODD:

- do not have significant issues with social interactions, communication and obsessions
- do not show the same level of demand avoidance

- reject demands from authority, not the demand itself
- respond to rewards.

Support strategies

Although PDA is an autism spectrum disorder, the support strategies often used with others on the spectrum may not work with pupils with PDA. If anything, structure and routine are perceived as yet more demands. A starting point is to understand that classroom settings have many demands, all of which serve to raise the person's level of anxiety.

Two dials

One technique that can help school staff manage a situation is to imagine they have two dials marked 0-10: one showing the pupil's level of anxiety, the other showing the adult's level of demands. The adult's dial should be moving constantly in the opposite direction to the child's. As the child's stress levels rise, so the adult's demands will reduce to zero. As the child becomes comfortable, so the adult can gradually increase the level of their demands. In other words, as a teacher you must be prepared to take an extremely fluid, personalised and individual approach throughout the day.

Find out key information

Every person with PDA is different and

Case study

Isaac explains how PDA affects his life

I am autistic first.

I can't touch very soft things, creams and gels, and I'm very selective with my meals and only eat the same foods over again. I have to be fiddling with something all the time. I often talk very quickly and too loudly and feel out of step socially. My special interests are about stories and characters, and I am extremely passionate about fairness and social justice. Growing up was hard – I didn't have much sense of 'self' and wasn't resilient. But I am now proud to be a nerd, and trans, and autistic.

But my autism doesn't always present as typical.

I generally have little trouble making eye contact and am good with language. In fact, I love talking to people (although I can struggle with peers). No one spotted I had autism until I was 13, when I dropped out of school.

My mood can change almost instantly from bubbling with excitement to lethargic and low. But my biggest issue is my constant, insurmountable anxiety, which prevents me from doing pretty much everything. I panic when asked to do anything (from clearing away my plate to going on a trip), although I also feel the same panic when no one has asked me but I think I *should* do those things. The more I want to do something the less able I am to do it.

Everything in my life is affected – I struggle immensely with basics like washing, getting dressed and even eating (which, as you can imagine, can cause some health issues). I try my best but it isn't the sort of anxiety that you can push through and things like routines or simple steps to follow just make it harder. It is literally paralysing and the only way around it is to try and out-trick my brain and keep things really flexible. I am lucky to have a lot of understanding people surrounding me who really 'get' PDA, and that makes life so much easier.

Isaac is 18 and lives in a residential setting in a special school. He set up That Autism Feel, a resource on tumblr.com



Priority rating chart		
Prioritising behaviour – how important is it that a pupil does the following?	Priority rating	Comments
Sits on a chair during classroom teaching sessions.	3	More important to stay in the designated area of class to minimise disruption to others.
Keeps shoes on in school.	3	Having shoes on to go outdoors will be a requirement, but doesn't have to join in playtime.
Attends assembly.	3	Not important – in fact, can we use this time for personal tutorials or additional PSHE work?
Does not damage property.	1	Non-negotiable. He will be prevented from doing this.
Uses pupil toilets at school.	3	More important that he uses a toilet in school – will nominate a particular toilet for his use.
Does not hurt other people (adults or children).	1	Non-negotiable. He will be prevented from doing this.

From *Understanding Pathological Demand Avoidance Syndrome in Children* – see *Find out more* below

the relationship you have with them is of paramount importance. Find out as much as you can from parents/carers and keep lines of communication open. If parents are hard to reach, you will need to find a way to work with them, which may involve visiting them at home. Use the table below to get a better understanding of how best to support the pupil.

Minimise ground rules

Some teaching professionals put a wide variety of ground rules in place, but if there are too many, it becomes difficult for pupils with PDA to understand and process them, and the rules are consequently seen as yet another list of demands. Remember, it is not 'I will not' but 'I cannot'.

Coordinate approaches

Staff training in PDA and support is essential. Misunderstandings sometimes arise when different staff use different approaches, so everyone needs to work as a team.

What are your priorities?

The key question to ask yourself is: 'What is really important in a given situation?'

It may be that wearing shoes in class is not important, but not running into the road is. So you will want to concentrate on ways to support not running into the road and may have to learn to live with shoes off in the classroom. It may help to work out the school's priorities in advance using the priority rating chart (above).

Meanwhile, the less personal the demand, the more likely it is to work. Strategies that may help include playing games, using characters, the child's favourite Pokémon or action character, or drama or fantasy. Alternatively try offering choices. For example, you may find yourself saying some of the following.

- Which song will we play at the end of the lesson?
- You choose. I have no idea.
- I wish I knew how to do this.
- I don't know what to do first.
- Look at all of these things on the floor. Where am I going to put them?
- I'm really good at doing this. No one can beat me!
- Wow, look at this!

Unfortunately, a strategy may work one day but not the next, so you need to adjust your expectations constantly. Meanwhile,

be careful with praise as this might be perceived as an implied demand – the expectation that they will be able to do the same thing just as well every time, which is unachievable for people with PDA.

Meltdowns

Individuals with PDA will have meltdowns – demands are everywhere. Consequently, the behaviour they may present can be very challenging. Remember that during a meltdown, they will be anxious and upset in a way you cannot comprehend, and their behaviour is beyond their control. Try to be reassuring, supportive and understanding.

The important thing is to be flexible. While it may be strange working outside the usual rules, it can often be fun. The aim is to be as non-confrontational as possible. Remember, it is not about showing them who is in charge but about reducing the pupil's stress levels so that they can engage and learn.

Top tips

- Minimise anxiety.
- Ask yourself if you have to stick to the timetable.
- Think about free time; demands are everywhere.
- Use role play.
- Think out of the box.



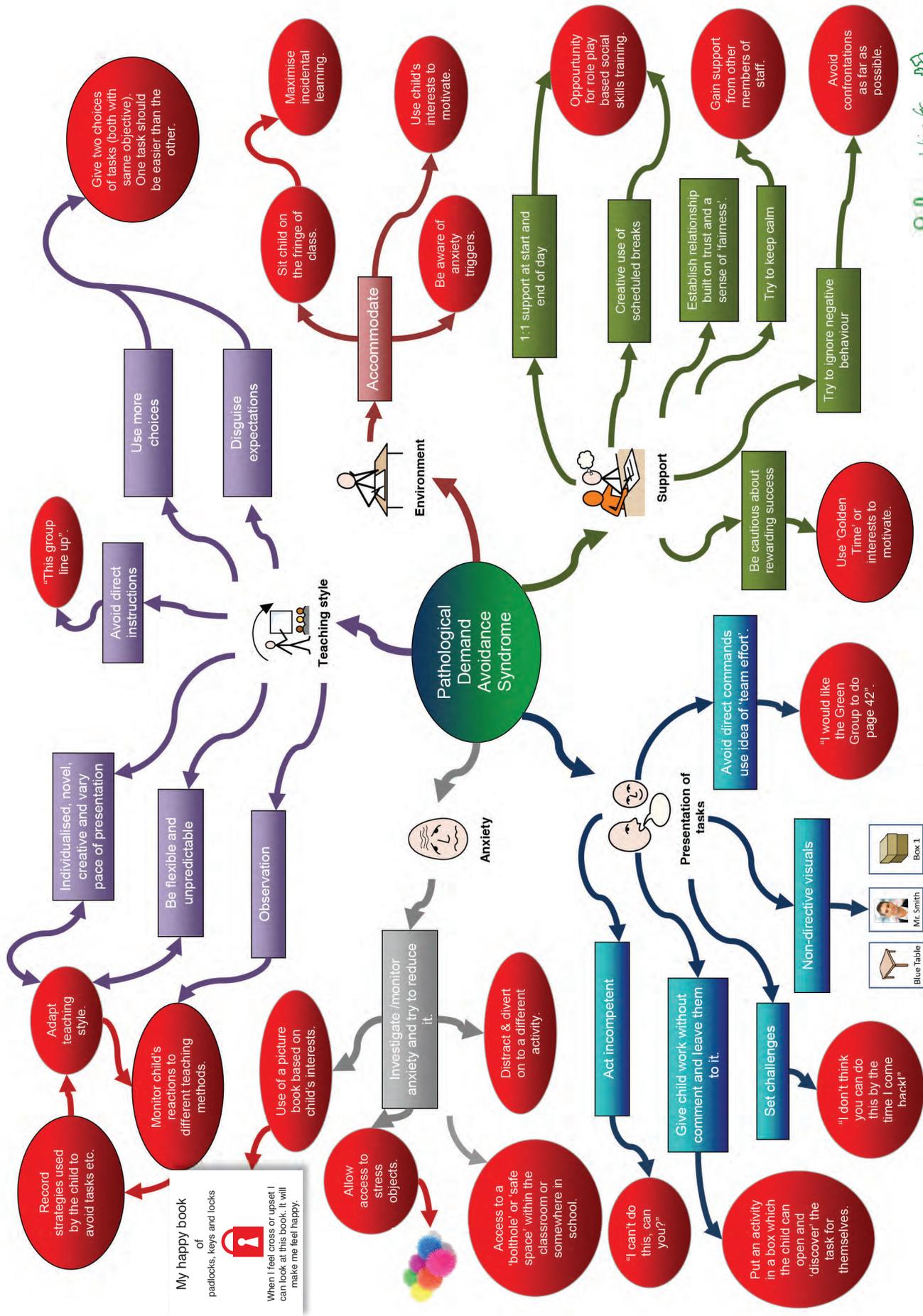
Tigger Pritchard is a consultant and trainer in ASD and PDA. tiggertraining@gmail.co.uk

FIND OUT MORE

- **National Autistic Society:** www.autism.org.uk
- **PDA Society:** www.pdasociety.org.uk
- **The Cambian Group** specialises in behavioural health services: www.cambianguroup.com
- **The PDA Resource** has lots of useful links: www.thepdaresource.com
- **Understanding Pathological Demand Avoidance Syndrome in Children: A guide for parents, teachers and other professionals** by Phil Christie, Margaret Duncan, Ruth Fidler and Zara Healy. Published by Jessica Kingsley Publishers. ISBN 9781849050746
- **The Explosive Child: A new approach for understanding and parenting easily frustrated, chronically inflexible children** by Ros W Greene PhD. Published by Harper Paperbacks. ISBN 9780062270450
- **Pathological Demand Avoidance Syndrome: My daughter is not naughty** by Jane Alison Sherwin. Published by Jessica Kingsley Publishers. ISBN 9781849056144

What PDA means for me		
I have pathological demand avoidance. It means my brain is wired differently from most people's. There are some things that I can do better than most people as a result, and I find other things very difficult. I will get very anxious much of the time and am quite good at covering it up sometimes, but it makes it very difficult for me. I hope this sheet will help you know what will help me.		
PDA trait	What it means for me	What would help
I struggle when I want to do something for myself – I often find I can't.	I get anxious when I start to do everyday things like thinking about showering, and even doing something nice. For example, a trip to the cinema is hard.	If people encourage me, it makes it worse, but with time and space and others around me doing the same things, I think it will get easier. (At the moment I need Mum to do most things for me – I hope to be able to do more for myself again.)

From the PDA Society by Sally Russell



Created by George Timmin 2008



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★ **Star Letter:**

Preparing for the day ahead

In her article on attachment difficulties (*Special Children* 235), Nicola Marshall stresses that conventional behaviour management strategies are inappropriate for children with insecure attachment and we should focus instead on relieving their anxiety, building relationships and making them feel safe.

For me, this should begin first thing in the morning with a 'meet and greet' session to help the transition from home to school and prepare for the day ahead. In her book *What About Me?*, Louise Michelle Bomber offers advice for a deep and meaningful encounter that goes far beyond a brief check-in with a tutor. I have summarised her key points below.

- Pleasure in seeing the pupil should be exaggerated. Be mindful of proximity, facial expressions, posture, tone and pace of voice. Once a relationship has

built up, a brief touch to connect with the pupil can be helpful. Smiles and healthy, appropriate touch are 'the most vital stimulus to the growth of the socially, emotionally intelligent brain.' (Gerhardt, 2004)

- Concentrate on giving the pupil full attention. Sit alongside them, against a wall and where there is full view of the area. Invite them to talk about last night and the journey to school. Give eye contact and summarise back what was shared, both explicitly and also what you inferred.
- Objects from home have important value. They need to be placed carefully in a special box that has a lid, or in a personal tray.
- Prepare the pupil for the day, going through a visual planner or diary together. Use sequencing connectives such as 'before', 'after' and 'next'. Encourage reflection by asking the pupil to 'scale' the effort levels they

anticipate. Take note of any subject or relationship that might require additional input.

- If there is any change in the usual routine, map this out carefully. Social stories can be used for this.
- At the end of the 'meet and greet', remind the pupil that they will be 'kept in mind' and when you will next meet. 'I'll be wondering how you'll be getting on in literacy.' 'I look forward to hearing all about it when I see you straight afterwards.' A Post-it note or record in planner can reinforce this.
- If there is a breakfast club, it is best served in a small, quiet and calm setting with the pupil at a table and key staff actively participating in the meal so that appropriate and healthy interactions are co-modelled.

Mary Meredith, Lincolnshire County Council service manager, inclusion

Developing the reading habit

In the pull-out resource of *Special Children* 235, Kenny Pieper argues passionately that reading for pleasure is far too important to be viewed as 'an extravagant extra' when children move on to secondary school.

Wise words indeed. We would add that it's not just reading, but the quality of what children read that makes a difference, as our latest research demonstrates.

On analysing the reading habits of 848,219 children in 3,897 schools for our 2017 *What Kids Are Reading* report (www.whatkidsarereading.co.uk), Professor Topping of Dundee University found that while younger children typically read books appropriate for

their age, as they grow older they can be tempted to stay in their comfort zone rather than pushing themselves further. This is reflected in their reading ages, which typically match their chronological age at the end of primary school, but begin to decline thereafter until, by the time they are 16, they have fallen three years behind.

'The brain is a muscle that literacy skills help train,' Professor Topping observed when the report was published in February. 'As it gets more toned, like all muscles, it needs more exercise. Currently, primary schools are exercising it more vigorously by reading more challenging books. We now need to replicate this in secondary schools. More discussions

between young people about books they are reading should be encouraged.'

Like Kenny Pieper, he also believes that teachers across the curriculum have a crucial role to play in ensuring a good balance between the books they most enjoy reading and the 'challenge' presented by the text, which should be neither too easy nor too difficult.

'I would encourage all secondary teachers, not just English teachers, to look closely at their pupils' literacy levels and remember that even the brightest students need to be stretched,' he noted.

Dirk Foch, managing director, Renaissance Learning UK

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Attachment insight

A Short Introduction to Attachment and Attachment Disorder (2nd Edition)

By Colby Pearce

Published by Jessica Kingsley Publishers

ISBN 9781785920585

£12.99

Reviewed by Martin Edmonds

Attachment disorders, their impact on children, and the practical strategies needed to address these issues are becoming part of the daily work of SENCOs and SEN practitioners.

Attachment refers to the dependency relationships children develop with their main caregivers. Such attachments typically develop during the child's first four years and are seen most clearly when the child becomes tired, unwell, anxious or hungry. Over recent decades, attachment disorder has become a term frequently used to describe a condition where children have difficulty forming lasting relationships and display notably disturbed or developmentally inappropriate behaviour towards others.

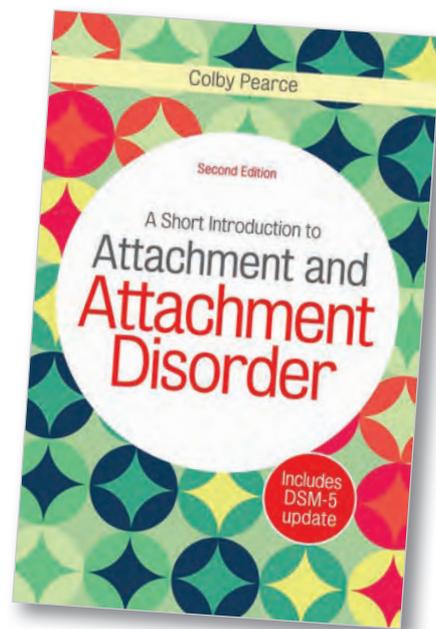
Colby Pearce's clear and concise introduction was first published in 2009 and remains an invaluable addition to any SENCO's bookshelf. The second edition has been substantially revised to reflect developments in our understanding during the intervening years and the 2013 revisions to the DSM-5, (the internationally recognised Diagnostic and Statistics Manual).

The author is principal clinical

psychologist at a psychology practice in Adelaide and has extensive experience in the field of child and adolescent mental health. His experience of working with children with attachment difficulties is evident, as this volume is rigorous, highly readable and eminently practical.

Its clear presentation and evidence-based strategies will benefit professionals

Divided into four chapters, the book presents an overview of what is meant by attachment, the nature of an attachment disorder, how to recognise such disorders, and finally approaches to support children and young people with these difficulties and their families. It opens with an overview of how the condition has been identified and described since John Bowlby's work in the 1940s. Attachment is then described using the CARE model, which aims to shed light on how



consistent, accessible, responsive and emotionally connected infants experience their primary care giver.

As technical language is used throughout, a helpful glossary is included at the end, along with full references to the authors and papers mentioned.

I am very pleased that the publishers have reissued this book and feel that its clear presentation and evidence-based strategies will benefit professionals, parents and foster carers. Highly recommended.

Martin Edmonds is a secondary school SENCO and manages a specialist provision for children with a diagnosis of autism

The learning brain

How the Special Needs Brain Learns (3rd edition)

By David A. Sousa

Published by Sage Publishing

ISBN 9781506327020

£29.99

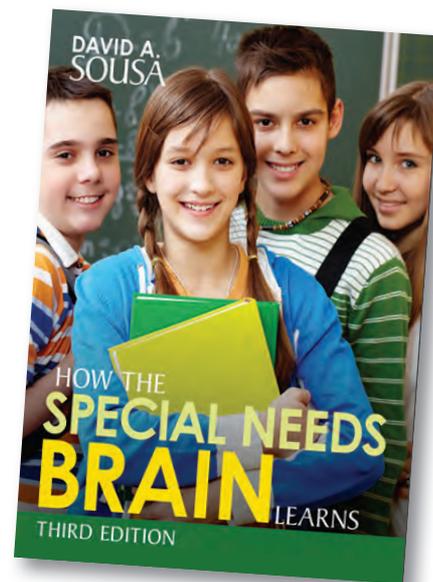
Reviewed by Cate Wood

Professionally speaking, the brain has always fascinated me.

On a personal level too, the brain has been a source of interest and wonder. Many years ago, I watched as my mother tried to communicate when a stroke left her with no speech or movement on one side. More recently, changes in an elderly aunt as a result of dementia mean that

today is lost to her but her childhood and youth are but a moment away.

So it was with anticipation that I opened this hefty tome. It is well written and easy to read yet has a level of detail and explanation that leaves the reader feeling that they have had a real learning experience. The font is of a good size and is well spaced so that, even though there is



a lot on the page, it is not intimidating.

I like the content. It starts with an explanation of how the brain works, and then romps through learning, memory and reasons for learning difficulties before expanding into a series of chapters looking at specific areas of difficulty, such as attention disorders, speech, reading, writing, mathematics and autism. The writer also includes information based on recent research.

I was disappointed, however, by the quality of the photographs and pictures, particularly those of brains, which are grey and unclear. I felt that clearer labelling and possibly colour or definition would have improved things here. On the other hand, the diagrams are well drawn, clearly labelled and easy to understand.

The green boxes are a good way of highlighting the summaries – for

example, an overview of dyslexia, autism or depressive disorders. These are concise and small enough to copy and keep as a reminder in a mark book or register. Big, bold, green and white headings announce the strategies at the end of each chapter – but the strategies go on and on. For example, the strategies for reading are split into eight separate sections over 16 pages. All good stuff, but I felt that a lot of it would have sat better in the main part of the chapter with a concise list summarising the suggestions.

Being picky, I am not sure what I feel about the front cover. On the one hand, the bright smiling teenagers reflect the fact that students with learning difficulties look just like their peers, as indeed most do. On the other hand, many teenagers and children with a special need do show differences, such as the characteristics

of a genetic disorder, wearing glasses or a hearing aid, or using a wheelchair. It must be frustrating for teenagers with an obvious disability never to see visual representations of themselves. I would have liked to have seen a broader disability and ethnic mix on the cover reflecting the wide range of needs. On reflection, I feel that this was a missed opportunity for positive representation.

Overall, though, I enjoyed this book. I feel more informed and would recommend it to anyone wanting to increase their knowledge about the brain and how it learns.

Cate Wood worked in SEN for almost 30 years as a teacher and a trainer. She now offers training around all aspects of special needs, and works for a children's charity

How to make friends

Play and Friendship in Inclusive Autism Education: Supporting learning and development

By Carmel Conn

Published by Routledge

ISBN 9781138842137

£23.99

Reviewed by Helen Curran

This book explores ways in which play and friendship can be fostered for children on the autism spectrum as part of an inclusive education.

However, it has a broader premise, and begins with a fascinating overview of play and the importance of this as part of a child's development. This sets the scene for the discussion on how individuals on the autism spectrum may experience play.

After an overview of strategies and therapies, the core of the book looks at how to foster and support children on the spectrum through inclusive principles, which include the various roles the teacher can take on; it is very thought-provoking.

One of the book's strengths is the way in which Dr Conn explores different areas in depth, yet in a clear and accessible manner. Theory is interwoven with practical examples illustrating good practice.

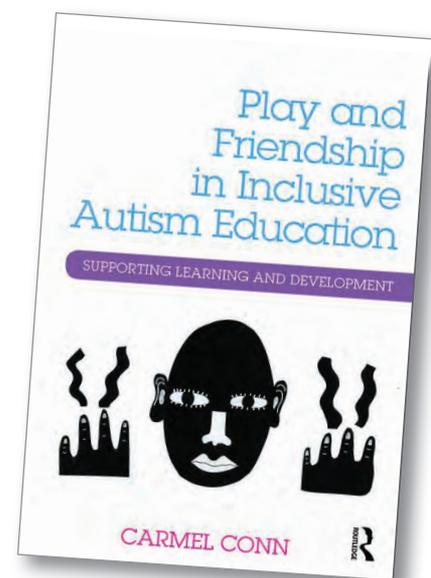
Another strength, and a fascinating section of the book, is her presentation of what she terms the autistic perception – the possible experience of the social

world for children on the spectrum – and the proactive, supportive approaches she offers. The circumspect language used to suggest possible areas of difficulties is refreshing. She repeatedly highlights the individual nature of children on the spectrum, beginning in chapter 3 by dispelling some of the myths related to the condition.

Reflective tasks are interspersed throughout. For example: 'Reflect on play preferences of the children you know.' These could be useful to share with colleagues, as part of training or to promote discussion.

Whilst the book is definitely worth reading from cover to cover, it can also be dipped into by professionals seeking additional insights into a specific area of interest. Certainly the layout supports this, as the information is presented in an accessible and often visual manner.

The audience it might appeal to is broad. It is likely to interest senior leaders in inclusive environments including SENCOs, as it carefully presents a whole-school approach. However, I



would anticipate that primary teachers in particular, as well as students pursuing study in this area, would find this book not only interesting, but practical and helpful.

Helen Curran is a senior lecturer in SEN at Bath Spa University. A former SENCO and LA SEN advisor, she recently submitted her PhD which explores the impact of the SEND reforms

Reviewers wanted: If you would like to review books for *Special Children*, please contact Sophie Chalmers: sophie.chalmers@optimus-education.com

Training students in self-regulation techniques – Colleen Murphy and Kim Brown



A student uses the Loom app to reduce her stress levels

When we're faced with a stressful situation, our body's fight or flight response is activated.

This triggers a variety of physiological changes, including sweat gland activity at the surface of the skin. Research shows that the fingertips are particularly sensitive to the emotional sweating associated with stress. The Pip is a wireless biofeedback device that measures this. It works with apps that allow students to visualise their body's response to stress, enabling them to learn how to self-regulate better.

We have been using the Pip in three ways for about a year. All our students have their own iPads with the apps pre-loaded. First, they use it to become more aware of their own stress levels, bodies and emotions. Second, working with them while they are calm, we use it to identify strategies that reduce their stress and anxiety levels. Finally, when their stress levels start to escalate, they can turn to their chosen techniques, which may include using one of the Pip apps on their



Stress tracker analysis levels

iPad, to work through their anxiety in a way that is safe and healthy.

An enjoyable way of getting students to develop self-awareness is with the Dragon Race app. Here they race flying dragons against their peers for about two minutes while they hold the Pip; the calmer they are, the higher and faster their dragon flies. This is very powerful because there are times in life when students are in a competitive situation and it is important to know how to stay centred.

Meanwhile, we teach students a variety of calming techniques which we test using the Pip to identify what works best

for each person. For some this might be slowing down their breathing rate. For others it might be riding an exercise bike, playing with beads, using a weighted blanket or listening to music. Sometimes it turns out that students' preferred music actually stimulates rather than calms them, as they can see for themselves when using the Pip, which means they have to find a different calming strategy.

This might be using the Pip itself with the Clarity or Loom app. The Loom app has several images, all set to music, that transform as the student becomes calmer. In one scene, there is a craggy tree covered in snow beside a frozen stream. As the student becomes calmer, the snow starts to melt, the stream starts to trickle, grass and flowers start to emerge and the leaves on the tree start to come out. It can take anything from three to 20 minutes for the transformation to be complete; the faster the student relaxes, the quicker the changes take place.

Alternatively, the Clarity app offers a two-minute guided relaxation session (used with headphones) via a soundscape, such as rain. As students calm and focus their minds, the soundscape becomes softer. If they begin to fret again, it becomes noisier, reminding them to focus on their breathing once more.

Ms Murphy has a student who will not talk when she is really upset. So she will offer her a Pip unit and use the Stress Tracker app. This has bands of red, yellow and green that move like a wave depending on whether the student is stressed (more red) or growing more relaxed (moving through yellow to green). Ms Murphy will time her questions accordingly; if the display indicates that the girl's stress levels have shot up, she will give her more time to answer. Another student who often avoids writing takes a two-minute break to do a Clarity session before returning to writing, repeating this as required, self-regulating himself in the classroom during the lesson. A third student finds the music on



The tree transforms gradually in the Loom app

the app so soothing that Ms Murphy put a recording of this on his phone so that he can just listen to it when he needs to. In another situation, she got a child to identify their favourite food using the Pip in a non-stressful situation. Then, when he became stressed, she would remind him to think about his favourite food, and he was able to use this imagery to calm himself down without the aid of the Pip.

The key is to start using the Pip with students when they are relaxed. Mrs Brown recommends allowing three to five sessions to identify what works best, but this depends on the child's age, their challenges and how well adapted they are to using the device.

Even children in Kindergarten respond to it, although Mrs Brown has found that dragon racing tends not to work for them conceptually as they just want to win. Instead they use the Loom and the Stress Tracker. She also finds the Pip helps

refocus children with ADHD.

The app is set up on each child's tablet and the system provides user statistics after each session. If you only have a class tablet, it is possible to set up a class Pip account and log the child's name and the strategies used in the memo field against each chart, but this is not ideal for long-term tracking.

The Pip works better for some students than others, so it is not a catch-all solution. Overall, however, I think it is fabulous because students start to learn about themselves and discover that they *can* control how they feel and think. Everyone sees self-regulation as an important skill and the Pip does a great job of developing this.

On a final note, the customer support from the developers is excellent.

The Pip from Galvanic Ltd is £159+VAT. All the apps are free to download and

work on iOS, Android smartphones and tablets. Galvanic has recently launched a new subscription service, My Pip Pro, which allows teachers to track students' scores, usage and progress on a secure cloud platform. The Pip is available from Amazon or www.thepip.com



Colleen Murphy is a teacher in Waubesa Intermediate School in McFarland, Wisconsin, for children from 3rd to 5th grade



Kim Brown, formerly an elementary school teacher in the US, is a technology coordinator in the district of McFarland

Bringing programming to life – Bryher Pennells

The Ohbot is a programmable robot head.

I first came across it at the Education Show in March 2016 and was so captivated, I bought one on the spot. I now have two, which I lend to the school. We have dressed them up in bandanas and headscarves, and the children find them equally enchanting.

The Ohbot comes ready assembled or in kit form – the assembly instructions are excellent and aimed at mainstream children in Key Stage 2. Seven motors provide a surprisingly realistic range of movement, including blinking and nodding. While assembly is a little beyond the capability of many of our students, who have severe and complex needs, a few have learned to program it, and even students with PMLD enjoy interacting with it.

The Ohbot software runs on Windows and uses a block programming system based on Scratch, which allows students to generate programs quickly and encourages them to experiment. To the delight of everyone, text-to-speech technology allows them to program it to say whatever they like – on Red Nose Day, one was placed on stage and addressed the whole school with a teacher holding a microphone in front of him.

The software includes face recognition, which means that the OhBot can be programmed to react when it sees a child and follow their movement; the children find this fascinating.



A student from Charlton Park Academy interacts with Mr Ohbot

We have done lots of things with the Ohbot, including sending it down a zip wire at a local fete. Because it so engaging, our more able pupils are very motivated to learn how to make it blink and so they are introduced to coding, albeit at a basic level. Students work in pairs: the child with the higher cognitive ability does the coding while the other might direct what it will do.

I have not come across anything for mainstream and special needs programming as appealing as OhBots. The children treat them as if they were alive and take especial care when carrying them around the school, where they are regarded as celebrities.

The Ohbot 2.1 Kit and Ohbot software from Ohbot Ltd is £139 +VAT. www.ohbot.co.uk

Bryher Pennells is a teacher and the culture and enrichment leader at Charlton Park Academy, a school for pupils with severe and complex needs in London

Collaboration in a virtual world – Sophie Chalmers

The Nureva Span visual collaboration system takes the concept of an interactive whiteboard to a whole new level.

Glen Tay Public School in Ontario, Canada, has a Span system that all the classes use. It can be projected on any white wall, while the software can run on any digital display, including an interactive whiteboard.

The system also functions seamlessly on two or three adjacent walls, creating a 'think tank' environment. It allows up to 10 simultaneous touches, which means that several pupils can work directly on the canvas at the same time, individually or in groups.

Alternatively, they can contribute ideas, images and content to the canvas via a personal device.

The tools include a digital keyboard, flipcharts, templates and text boxes. Pupils can use a stylus if they prefer, although most use a finger. It also comes with templates, making it easy to sort



Pupils can move or regroup material as the discussion throws up new ways of approaching a topic

materials into a Venn diagram, for example.

Spans range in size from 1.88m to 9.19m. In addition, the software enables a virtual canvas of up to 60.96m which pans from side to side – you simply swipe the canvas across for fresh space to work on.

Heather Snider is a Grade 2 and 3 teacher and has used the Span for maths, science, social studies, story writing and mind mapping with her pupils, who are

aged seven to nine. Each canvas is saved automatically, can be accessed from anywhere on any device with a compatible web browser, and can be exported and shared as an Excel spreadsheet or as a pdf. For security purposes, she 'owns' the canvas her pupils work on and she invites them to participate. Only the owner can delete, share or export data.

As an example of Span in action, her pupils used it for a science project on plants and animals. They worked in groups on the respective life cycles, typed directly onto the canvas, organised ideas into groups, and illustrated their ideas with hand-drawn pictures or images from the internet.

If someone is absent for any reason, they can still contribute to the canvas from home, as long as they have a tablet or computer and an account with the span system in that class. Just like the other pupils, they can add content and can move ideas around individually or organise them into groups.

DISCOVER THE NUREVA™ SPAN™ SYSTEM

Make creation and collaboration accessible for all

$ax^2+bx+c=0$



Seeing how their peers approach a topic gives pupils at Glen Tay Public School an opportunity to reflect on their own thinking

The projectors on the wall use laser-based technology with an integrated touch module. Nureva staff set the system up for the school about a year ago and teachers found it very user friendly from the start – even the Kindergarten children enjoy using it.

The tool bar is simple and clear so pupils seem to be able to use the

system instinctively. Ideas can be added and organised into groups as pupils collaborate and refine their thinking.

The school has found Nureva to be very responsive if there is a problem with the software, and there is a good troubleshooting section on their website.

The real question is: why would you use a whiteboard again? This technology

allows pupils to participate at their own level in their preferred learning styles, which makes for a very inclusive environment.

The system encourages critical thinking. For example, pupils can see how their peers are approaching a maths problem and learn from them. Everyone has an opportunity to see other people's perspectives, which provides an opportunity to reflect on their own thinking.

Consequently, children are more willing to take risks because they can easily revise their work if they choose to. Importantly, the Span system, along with other collaborative tools, plays to pupils' strengths: some children might be stronger in written work, others may rely on pictorial support.

In short, staff at Glen Tay have found Span to be an effective collaborative system that is engaging and fun for everyone.

For educational establishments, the European starting price for the Nureva Span MC306i mobile system is US\$5,249 +VAT. www.nureva.com

A multimedia teaching tool

Explain Everything is an interactive, collaborative interactive whiteboard app that allows you to load many types of media into a tablet screen and work flexibly with it.

You can make or insert a video or webpage, annotate a photo or graphic, add a voicenote to some text and draw and type seamlessly, all within one app. Originally for iPads, it is now available

on iPhones, Android devices, Windows and Chromebooks. Two teachers explain how they use the app in very different ways.

Flipped learning using signing – Erik Queen

We have been using Explain Everything for nearly six years. It is a dynamic way of presenting information which more learners may find accessible.

For instance, I can draw on to the screen to explain how a picture might relate to some text. In turn, pupils can give feedback using media they are comfortable with – not everything has to be written.

I use flipped learning to teach maths to high school students who are deaf. They study at home using explanation videos I have made. Lessons are then devoted to exercises, projects and discussions.

The app is very easy to use and the tools are intuitive. When you open it, you start with a white screen. To the left is a menu with different icons, which are

easy to understand, and at the bottom is a recording panel.

“The app is very easy to use and the tools are intuitive”

There are two ways of making explanation videos. I could record all the signing, and then all the writing, and put the two together. However, a feature I really like in Explain Everything is the ability to record both operations at the same time. It is simple to set up: in the left hand menu of the app, there is an option to add

a new video to a tablet's whiteboard. I arrange this on the screen.

I then video myself signing instructions in American Sign Language (ASL), before turning to the tablet screen where I follow my own instructions with the next line of the calculation. From the students' point of view, they see me signing the explanation and then looking down and writing on the screen.

This makes the explanation more cohesive and I don't have to worry about getting the duration of the pauses right between writing and signing. I can then compress the whole presentation into a video for students to watch when they are doing their homework.

While the basics are simple, a few aspects are a little harder. For example, if I

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mess up a video and want to delete a small section, this requires a little more practice, although video editing is being made easier with each new version of the app.

We use Explain Everything primarily on the iPad but this year I started using it in the desktop version on a Chrome

operating system. At first there were a few technical issues with the timing of me signing and writing on the screen, but the developer's support technicians were brilliant and helped me work through the process of solving this. I think this app is worth its weight in gold.



Erik Queen is technology teacher at Metro Deaf School, St. Paul, Minnesota

Teaching new vocabulary – Sara Windschitl

When it comes to communication, Explain Everything makes it easy for me to help pupils learn new vocabulary.

As every teacher knows, students need to be proficient at speaking in their own language before learning to read and write in another. My Grade 1 pupils are all deaf and their first language is American Sign Language (ASL).

The Explain Everything app is so easy that I have seen children in Kindergarten get their heads around it – they use it to tell a story much better than they could write one.

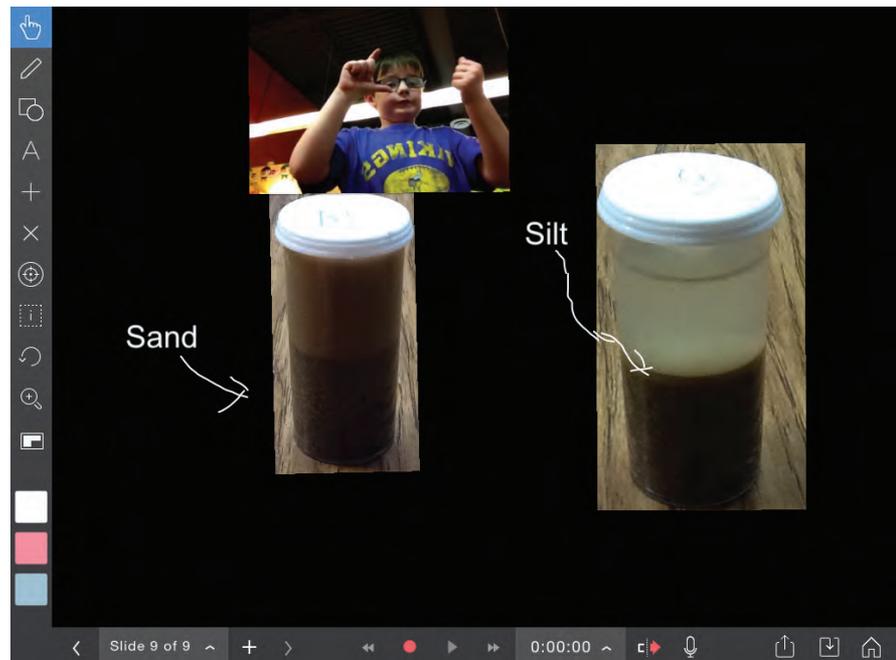
A colleague who teaches hearing children uses the app this way; we are both achieving the same goals – developing proficiency in speaking before moving on to reading and writing in what, for my pupils, will be their second language, English. (There is even a simpler user interface for young children and users who might be overwhelmed by the amount of tools and capabilities in the app. When enabled, fewer buttons are presented and they are larger in size.)

I might use Explain Everything to video myself giving instructions or reading a story in ASL. In science, students video themselves signing new vocabulary and concepts, and add these clips to their science journals so they have a permanent record of them.

This is where Explain Everything comes into its own – it allows them to capture ephemeral things like signing, and children are no longer confined to writing everything.



Students photograph an object to illustrate a science concept, which they will then describe in sign language using the video capture tool



The video of the child signing vocabulary plays above the images used to illustrate it

“ We can put a lot of mixed media into one whiteboard ”

When I explain a new concept, I look for an image or even a video on YouTube that illustrates the word. A new word recently was 'appreciate'. I videoed a student signing it and then found a video of a woman's cat being rescued from a burning building.

After watching this, the children went away and filmed themselves signing a sentence using 'appreciate'. The kind of sentence I was looking for was: 'The woman appreciated the fireman getting her cat out of the burning building.'

Using the class interactive whiteboard, we review everyone's videos and give feedback, then students assess their own work using a rubric to award themselves marks for being inside the frame, for having an idea in their head before they start filming, and for using the given word

in a complete sentence. Later they video themselves using the word again, trying to improve the areas where they were weak the first time.

The beauty of Explain Everything is that pupils can use mixed media to build up layer upon layer of explanation as they go along, which I can save to Google Drive, among other cloud storage services, and circulate.

Users can download the Explain Everything app on all the platforms for free for the first 30 days. Thereafter prices start at €2.67 +VAT per educational user (student/teacher) a year. <https://explaineverything.com>



Sara Windschitl is a first grade teacher at Metro Deaf School, St. Paul, Minnesota

The power of reassurance

Helen Robinson talks about the impact of an online counselling service for students in her school

Furness Academy, like schools everywhere, has some students who lack confidence and have low self-esteem, a few who are dealing with complex issues at home and others who have mental health difficulties. We use a raft of pastoral strategies to address these problems, including access to a service called Kooth.

From XenZone, this cloud-based online service is aimed at children and young people. Free at the point of use, it is usually commissioned by local authorities and so doesn't require school funding. The counsellors are accredited with at least three years' experience and work under strict governance procedures.

Out-of-hours help

Students find it easy to use. Upon signing up, they choose an avatar to represent themselves, which helps to keep them anonymous, and then they can book a face-to-face session, or more usually have a 'drop in chat' via texts and messaging with a counsellor of their choosing on duty at the time. The service is available 365 days a year between 12pm and 10pm Monday to Friday, and 6pm and 10pm at weekends – the school has a mobile phone policy so students can log on from their mobile phone during their breaks (69% of calls are outside school hours).

Meanwhile, students are referred to our pastoral staff by teachers or families for emotional support, and some students self-refer. Staff work with them to identify areas of need and possible interventions. The aim is to help prevent the onset of mental health problems by building resilience. However, like many schools, we are impacted by the lack of provision from CAMHS due to the number of students across the county who are referred to them. This is where Kooth helps by providing an extra layer of support for our young people.

Assemblies used to discuss issues

We have used it for about 18 months. XenZone staff regularly come in to run assemblies for each year group and explain the service on offer. The



While most students at Furness Academy are happy and well adjusted, a few may have mental and emotional difficulties and the school has a range of strategies in place to support them

assemblies are powerful and well targeted to each cohort's stage in life. Sometimes the focus is on bullying and exam stress, at other times, on mental health issues such as anxiety. To raise awareness from the start, they also run introductory sessions about Kooth during transition days for Year 6 pupils. Another service they provide is a programme around emotional resilience.

Analysis of users across the country shows that issues are wide ranging and include relationships (family, friends, boy/girlfriends), feeling low, exam stress, moving on from the past, managing feelings and anxiety, self-harm, confidence, bullying, loneliness, bereavement, parental relationship breakdown, suicidal thoughts, eating disorders, trauma and sexual abuse.

For privacy reasons, our students are under no obligation to tell us they are using the service, why or when. Many of them do, however, and what they say indicates that Kooth is a valuable tool that has enabled them to manage things better in school and at home (in a survey of Kooth users nationwide about the service, 97% would recommend the service to a friend and are planning to use

it again themselves). Their confidence has improved and they are more emotionally resilient. Some students have reported that they are able to manage their anxiety better because they are using the strategies that Kooth counsellors have taught them.

A measurable impact

We also see the impact using PASS (Pupil Attitudes to Self and School), the self-evaluation assessment tool from GL Assessment, which we run annually. These psychometric questions measure student attitudes in several core areas with a proven link to academic outcome. While we cannot determine a definitive causal link, when we look at the results for students who have told us that they are actively using Kooth, we can see a noticeable improvement compared with previous data for these students.

Clearly, this is not all down to Kooth, but the data shows that something is making a difference and we think this is partly down to having unlimited access to a counsellor when they feel they need it, and on their terms.

Meanwhile, we continue to go through the usual process of referring students to CAMHS when required, knowing this process may take up to six weeks. So while students are waiting, sometimes advice from a Kooth counsellor may help them – it is just another tool we use to help support our young people.



Helen Robinson is assistant headteacher at Furness Academy, a secondary school in Barrow-in-Furness

FIND OUT MORE

- **Kooth** from XenZone: <http://xenzone.com>
- **PASS** from GL Assessment: www.gl-assessment.co.uk

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