

School-Based Interventions and Autism:

Case studies of staff research at Queensmill School



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“A caring environment, where we respect and value children for who they are, help them understand the world around them and teach them to manage their autistic behaviours.”

We are pleased to share with you a sample of the work we have undertaken to broaden our understanding of autism through research. We believe it's essential to explore and extend our knowledge of the field: whether it is an established intervention, assumptions previously held, or an entirely new approach. You will see that much of the research is by staff members still working at the school and we are especially proud of this fact. I do hope you enjoy reading and are encouraged to explore and research further.



Freddie Adu

Head Teacher



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“Play is the highest form of research.” Albert Einstein

RESEARCH IN SCHOOLS

Queensmill School has an established tradition and commitment to research and development (R&D), including the leadership of R&D for the West London Teaching Alliance and membership of the Pan London Autism Schools Network-Research (PLASN-R); a collaboration of senior school leaders and university researchers who together generate ideas for the design, implementation and dissemination of research projects.

In September 2013 an R&D Board was set up to lead and monitor relevant R&D activities in school. Research teams benefit from diverse membership, bringing enthusiasm, expertise and fresh insights. Therefore the membership of the Board includes our R&D Coordinator, a class teacher, a teaching assistant, one parent representative, a research assistant and an external R&D university consultant. The board publishes a termly newsletter for parents and staff to keep them up to date with research activities at school and to provide a summary of recent studies published in research journals. In addition, we publish research summaries of the projects conducted at Queensmill.

A research-engaged school is one that investigates key issues relating to teaching and learning. In the case of Queensmill School, this also extends to autism-specific research (for example sleep in autism, speech therapy and drama and joint attention, to name a few). Furthermore, a research-engaged school turns data and experience into knowledge and translates that as evidence for everyday practice.

Conducting research in school can have profound impact in a number of ways:

- Confidence in teaching method – finding effective ways to help teachers understand the implications of research/ use research to better inform teaching practice.
- Research helps to build knowledge and more efficient learning.
- Evidence of impact of a particular approach or program.

Why become a research-engaged school?

Becoming a research-engaged school has the potential to contribute towards improvement in school practice, contributing to a school's self evaluation. The research helps to build knowledge of the pupils' needs and in regards to Queensmill School's dedication to research, it contributes towards autism research as a whole.





Selective

Eating

Can playing with food encourage a child who has a self chosen restricted diet to try new foods?

Project by Alexcia White

(* names have been changed)

It is estimated that 46% to 89% of patients with Autism Spectrum Disorder (ASD) experience some kind of problematic eating behavior. These feeding problems include selective food avoidance behaviors and idiosyncratic and entrenched food preferences (selective eating) based on food texture, color, smell, and presentation.

Previous studies have indicated that children with ASD tend to be marked with problematic and challenging feeding behaviours.

Autistic children exhibited significantly more disruptive eating behaviour than typically developing children.

The findings supported the previous studies that children with ASD particularly refuse foods and are more likely to avoid foods than children without autism. The study confirmed that Omani children with ASD were more selective about what to eat, and exhibited a more limited food repertoire compared to typically developing children.

The study recognises the negative impact sensory sensitivities have on the eating habits of children diagnosed with autism, and that it is one of the primary causes for selective eating habits. The purpose of the research was to examine if children aged from 4 – 8 years old, with an autism diagnosis and selective eating habits, can be encouraged to try new foods by adjusting the mealtime environment to suit their sensory needs, creating an environment that is calming and relaxing, along with giving them the time to explore the food and seeing another individual (me as I was modelling eating, touching, tasting, smelling the foods presented) enjoy different foods. The aim of the research was not just to examine if they would swallow new foods but to explore if they could be encouraged to interact with the different foods presented by touching, tasting, smelling or biting new foods.

To summarise – an explanatory study to investigate the contemporary phenomenon of selective eating habits in young children diagnosed with autism. The exploratory case study sought to explain if removing the expectation of eating in a mealtime environment and incorporating sensory enjoyment and/or interests of the child would encourage them to try new foods.

The purpose of the case study was to contribute towards research on ethical methods of interventions appropriate for working with young children with autism who have issues around eating and the mealtime environment.

Each participant was taken to a screened – off area of their classroom and presented with foods that were similar to ones they already tolerated. The reasoning behind conducting the research in each individual's class was so they felt comfortable working with me in a familiar environment thus reducing their anxiety during the activity. I conducted a literature review before designing and undertaking the research and from its findings I came across a suggested approach to tackling eating issues in children with autism which was to introduce foods similar to ones that the child was already tolerating and repeatedly given the similar foods to the child, allowing them to become familiar with the smell, touch and the appearance of the food. My literature review also led me to incorporate the concept of playing with food with the child and modelling eating when playing with the food to help them understand that the new items they are presented with are safe.

To summarise – the research was based on removing some of the sensory stimulus that may produce barriers for those with autism to try new foods. It involved using a non-pressurised approach to eating, allowing the participants to remove themselves at any time from the study, whilst playing in a calm relaxed environment.

FINDINGS

According to the data it seemed that playing with food in a naturalistic setting with their sensory and special interests catered for can encourage children aged between 4 – 8 years old to try new foods. In 95% of the cases of food presentation the participants interacted with the foods, showing interest by either touching, putting in mouth, licking, biting and swallowing. In 33% of the cases food was consumed typically on the first occasion it was presented.

Possible themes also emerged from the active participant observations. Thor enjoyed playing with the different foods, there was no hesitation in touching different foods and packing them into the numerous vehicles we were playing with. I did pick up on three things from the sessions with Thor. The first one I noticed was Thor licking his fingers, but not the food, when he thought I wasn't looking and as soon as he saw me looking he quickly stopped and continued to play with the vehicles. On another occasion I was modelling food consumption and making all the yum noises and Thor started saying to himself "food dirty", so I showed Thor the food in the packet and let Thor know it was ok if he wanted to have anything from a packet. On the last observation Thor tried a non cheese flavour, non branded, different texture to the normal crisps consumed and was so intrigued at being able to see himself eating on the iPad screen he was attempting to consume an extremely large packet of crisps so he could see himself eat. The iPad was supposed to be a non intrusive way of collecting information but it may have added another method of encouraging food consumption.

Another potential theme that emerged from the research was from a chance meeting with Batman's mother in a coffee shop. She explained to me that every day she read the social story with him and every day he would ask her if today was the day that he got to play with me. Batman had the highest percentage of food consumption, and even requested to eat jelly with fruit pieces and consumed it even though he does not normally enjoy eating wet mushy type foods.

These incidents opened up the possibility that perhaps it was a fear of eating food that wasn't prepared or presented by their primary caregivers that presented the barriers with food consumption at school. Thor was saying the food was dirty but secretly licked their fingers after touching different foods and happily ate a packet of crisps that was presented in the last session in its packet. It could be trust had been built up during our sessions and Thor felt safe at the end to try something different that I presented and had made the effort to show it was not dirty as it was still in a closed packet and opened just for Thor. In Batman's case the social story read by their mother and the confirmation from her that it was ok to try foods with me whilst we were playing I believe helped Batman feel confident and safe about the foods I had. Perhaps a more collaborative effort could be used between parents and professionals in showing the child that it is ok to eat what is offered at school. In Batman's instance the social story seemed to have had a very positive impact and it could be a method that could be employed more often.

When working with Superman the iPad seemed to play an important part in the sessions, as from the first session they spotted the iPad and the images of themselves moving around. Superman took whatever food interested them and played with it in front of the camera watching themselves the whole time and on occasions trying different foods and made sounds of enjoyment.

These results offer a very viable and ethical approach to restricted diets. Previous research conducted on young children with autism had used a very unethical approach by removing their right of consent to participate in the research and the children being presented with food repeatedly with the expectation that they eat it. Previous studies applied the escape prevention technique to their research on one child aged 3 years and although the research reported 100% success, it also reported occurrences of the child vomiting and being made to eat again if this happened.



IMPLICATIONS

Practice in school

Schools should consider whether making adjustments to the mealtime environment would be appropriate for any child having issues with eating. They should consider how to make mealtimes enjoyable. Schools should also consider whether it is a trust issue for the child and if working collaboratively with the parents/carers to encourage the child to consume foods presented to them at school by using a social story as I did with the participants of the study. This social story should be read at home and the parent be given a lunch menu so they are able to prepare the child for the foods that they will be presented with at school on any given day and offer reassurance that it is ok.

Research

There was a gap in the literature reviewed for an ethical multi case study research approach to selective eating in young children with autism. It offered an ethical approach that intended to make interactions with foods an enjoyable one and to not force feed a child. The findings from the case study were extremely positive and suggest there are varied approaches to address selective eating habits that are ethical which need to be researched further.

Replication

In the future I would like to replicate the study as the time limitations of this study did not allow for an extensive study into the ethical ways of encouraging children to be comfortable and willingly try new foods. If this study was to be replicated I would do it for a longer period than five weeks and would increase the session from once per week to three times a week. I would also do a follow up study to see if the new foods consumed during the research continued to be eaten by the child.

Costs

The research was conducted over a five week period, the first week consisted of an hours observation of all the child participants at lunch time and I worked with each participant for 30 minutes, once a week for 4 weeks. I spent on average of £2 per child each week on food.

I was able to use sensory resources readily available from the school and personal items that I knew would be suitable for each child's sensory likes or special interests so there was no financial costs for this.



CONCLUSION

The time limitation on this research did not allow for an extensive study into ethical ways of encouraging children to be comfortable and willingly try new foods, but it did allow a brief insight into some of the barriers that selective eaters with autism face daily. If I was able to do this again I would increase the number of sessions allocated for each child allowing me to conduct a more thorough investigation and then revisiting each child a month later to see if any of the new foods they tried was still accepted. This would allow for the investigation of how much of an impact the approach had on their everyday diet, long term.

By repeating the research with the same participants the results are reliable as each participant's progress was recorded. The validity of the results have been assured due to ensuring data was gathered to answer the specific research questions. The results were extremely positive and suggest there are varied approaches to address selective eating habits that are ethical which need to be researched further.

This is where this research fills a gap in the literature available. It offers an ethical approach that intends to make interactions with foods an enjoyable one and to not force feed a child. I believe every child should be given the same opportunity to explore different foods in a way that is comfortable and non-threatening to them, and this playing with food approach may offer that opportunity.





The impact of the Sleepwise program for pupils and their families and the feasibility of a school team delivering the program.

Project by Caroline Bulmer, Charlotte Spencer, Catherine Carroll

The occurrence of sleep disturbance among children with autism is known to be higher than the typical population. Studies have reported that sleep disturbance has been linked to reduced daytime functioning, increase in challenging behaviours and increase in family stress levels. Reports from parents at Queensmill School demonstrated that this was one major area of concern.

This case study presents findings from a pilot of the Sleepwise program (O'Connell 2005) conducted for seven pupils (aged 3 - 8) by Queensmill School, a special school for pupils with autism in West London. The pilot was funded, in part, by the Baily Thomas Charitable Fund in July 2015. Sleepwise is a parent group program designed for young children with developmental delay and incorporates behavioral, communicative and sensory strategies. The pilot took place from January 2016 to November 2016.

There two objectives of the pilot were to investigate:

1. The impact of the Sleepwise program for pupils and their families.
2. The feasibility of a school team delivering the Sleepwise program.

Specifically, we wanted to investigate if the Sleepwise program could:

- Increase the knowledge and understanding of parents in how they might support their child to develop better sleep habits
- Provide ongoing support over two terms to support parents in the activity
- Provide a mutually supportive environment for parents to share experiences

- Work towards ensuring that pupils are better prepared physically for the school day
- Help reduce the stress experienced by parents and families of pupils with sleep difficulties.

The program was delivered by Queensmill staff Caroline Bulmer (Assistant Head teacher and occupational Therapist) and Charlotte Spencer (Family Liaison) who were well known to the pupils and their families. Parents of seven children took part in the pilot.

Parents of the pupils were asked to:

- Attend two three-hour workshops (one week apart) to explore in depth issues around sleep and what parents can do to help their children.
- Complete a sleep diary of their son/daughter's sleep habits in between the two training sessions.
- Meet with Caroline or Charlotte in their home after the training sessions to complete a comprehensive sleep assessment.
- To undertake (over three months) the actions agreed in the individualised sleep program drawn up by Caroline or Charlotte.
- Complete of a questionnaire on the sleep habits of their child at the start and the end of the program.
- Take part in a focus group at the end of the program to explore their experiences and perspectives.

FINDINGS

The findings from the Children's Sleep Habits Questionnaire and the focus were very encouraging. Below is a summary of the findings. A progress graph on number of problem areas reported before and at the end of the project can be found in Figure 1 below.

Results of the Children's Sleep Habits Questionnaire:

- Improvement in mean score across 18 out of 31 items

Areas of marked improvement included:

- Falling asleep within 20 mins of going to bed
- Falling asleep in a parent/sibling's bed
- Reduction in being afraid of sleeping alone
- Reduction in trouble sleeping away from home
- Reduction in being awake more than once in the night
- Four parents reported fewer problem areas of sleep at the end of the intervention
- Four parents reported that the number of sleep problems had almost halved
- Each parent reported an average of 8 areas of progress – ranging from 6 to 12 areas of progress.

Key findings from focus group found that the strengths of the program included:

- The structure
- Home visits
- Staff working on the project were known to the parents and families which allowed for a more trusting relationship and more effective outcomes
- Staff were available to call or meet in school if they needed help

Some of the challenges of the program included:

- Parents maintaining the resilience and assertiveness to implement the changes every day in the home
- School summer holiday fell in the middle of the programme

Some of the programme improvements included:

- More home visits
- Activities with pupils e.g. social stories

All the parents reported that they would recommend the programme to all parents and wanted to continue with the program with perhaps a 'top up' review and plan.

IMPLICATIONS

Practice in school

The prevalence of sleep disturbance among children with autism is known to be higher than the typical population (Kotagal and Broomhall 2012, Krakowisk et al. 2008). Research suggests that sleep problems affect between 40% to 80% of people on the autism spectrum (Research Autism, 2014). Difficulties with sleep can have serious implications for the child, their performance in school and for the family life.

Due to resource constraints, schools are not usually able to offer support with sleep problems beyond perhaps offering a one off training session. All parents in this study reported that the support they had received from the school had been the most effective compared to all other agencies because the staff members were known to the families. The member of staff involved in the program also found it a rewarding and effective use of their time. The school senior leadership team is now looking at how they might fund a second program in 2017–18.

Research

This pilot would have been strengthened if it had been possible to measure/observe if there had been any effects/improvements in school for the pupils in the study. Researchers and practitioners need to consider what 'improvements' might look like and how they might be reliably measured.

CONCLUSION

The Sleepwise program had a positive impact on the children and their families. It is something that the school would like to continue.

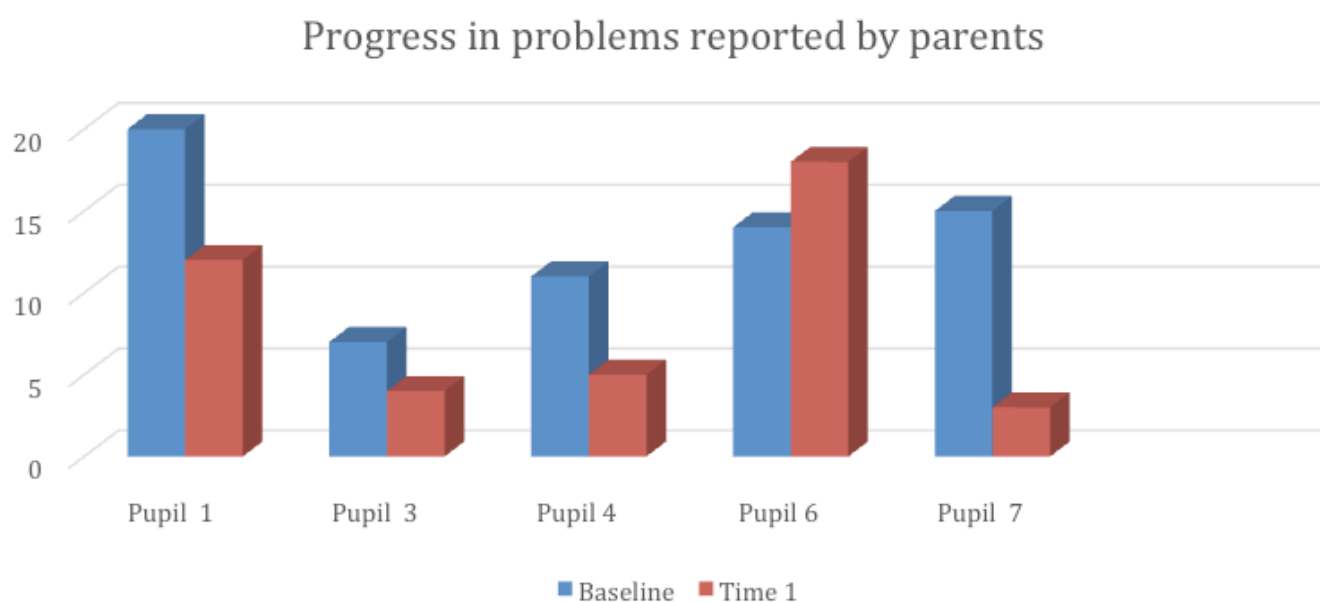
The sleep plan, an element of the Sleepwise program was especially attractive to parents and practitioners, this was feedback the researcher received from delivering this to two groups at the NAs conference

Significant interest from other occupational therapists and settings, who perceived the findings as insightful and sought to implement the strategies in their settings with young people

Study attracted interest from a well-known, large pharmaceutical company seeking to draw on our expertise to develop accompanying sleep plans with their latest sleep medication.

Further research is intended, with a focus on adolescents.

Fig. 1 Number of problem areas reported by parents (n=5) before and at the end of the project





Assessment Technology

Using new technologies to assess students with Autism Spectrum Disorders. The paradigm of Kinect technology and Kinems games.

Project by Foteini Tsiakalou

During the last decade, international requirements for inclusive education have made it a high priority for schools to offer opportunities for children with additional support needs to succeed. To achieve this, teachers and all major stakeholders must decide who gets what kind of support, how instruction will be delivered, the level of instructional intensity needed by a student and the extent to which instruction is working. The process of collecting information for the purpose of making these kinds of decisions and increase learning effectiveness for students refers to “assessment”. Assessment has been found to present a host of specific difficulties for students with ASD.

Difficulties usually relate to core autism characteristics (e.g., sensory and motor difficulties, atypical interests, inattention and low engagement) and to the nature of the assessment task itself (e.g., tasks that are highly dependent on language comprehension, on receptive and expressive language use and on reciprocal social interaction skills). This way, assessment may be biased against students and unable to elicit their best performance. Therefore, it seems that assessment of children with ASD is a complex and challenging process that requires plenty of accommodations such as more “autism-friendly” formats.

FINDINGS

The research was a multiple case study. Seven teachers and seven students diagnosed with ASD from two different SEN schools in London* were involved.

Semi-structured interviews and observations were used, to investigate teachers’ views and current practices in assessment (e.g., prevalent tools used, difficulties teachers face and purposes of assessment). Live-modelling and self-trials, followed at each school in April 2015, to inform users about KINECT technology and familiarise participants with the “Kinems” software.

After this, personal accounts for each teacher and corresponding students were created, and during a 10-week period, "Kinems" sessions were conducted once a week for each student and teacher. In the last phase of the research, semi-structured interviews with teachers followed to investigate their views on "Kinems" monitoring and reporting system and check whether the data produced were appropriate and useful as an assessment tool.

The most important purposes of assessment, as seen by the teachers in the present study, are to inform teaching, to support students' learning and to evaluate teaching effectiveness.

Teachers of students with ASD find assessing their students' skills quite a challenging task and difficulties mostly pertain to core autism characteristics. Apart from academic targets teachers find equally important the assessment of other "key areas" of performance such as behaviour, communication and verbal skills, sensory needs and life/self-skills. Nonetheless, despite high demands for assessment, they all stated that the tools they have to track their students' progress are not always effective.

The most powerful tools to gather assessment data were found to be student observations during class activities and paper and pencil tasks. Additionally, photographs and videos are often used to supplement the observational technique, to record students' achievements and to aid their communication with other staff members. Photographs and videos are reported to serve another important purpose of assessment: to provide tangible evidence to parents and OFSTED regarding children's progress. This was the only recorded use of technology for assessment purposes.

Regarding "Kinems", teachers reported the following advantages by its use for assessment: the software is easy to use, differentiation of tasks is effortless, it is less time-consuming compared to other assessment practices, it gives the possibility to assess various skills at the same time, it makes it possible to check if knowledge acquired in the classroom can be generalised in other contexts, and, finally, the monitoring and reporting system can keep reliable, quantitative data on students' performance (e.g. reaction time, capture of hand-movements) in a printable format for recording purposes. The information acquired by the system can then easily be used to: guide their teaching, help them think of next targets for their students, communicate results with other school staff or parents and reveal students' hidden potential. Another advantage mentioned is that assessment with "Kinems" can be conducted by other staff members (e.g., TA's), and still allow the teacher to access rich information at a later time. Moreover students find it highly motivating and engaging, less stressful and can benefit from "technological affordances" such as instant feedback provision and automatised scoring results.

Finally through teachers' testimonies, the study managed to obtain useful suggestions that could inform changes in the tool's environment (e.g., enrich with tasks more appropriate for low-achievers, produce summative graphs that will allow comparisons, take photos while students perform an activity) and extend the games' educational application so as to benefit students' learning (e.g., use as a stimulation or "warming-up" activity before learning, use to teach life or social-skills such as cooperation and turn taking)

IMPLICATIONS

Practice in school

Schools should take advantage of new technologies not only as learning but also as supplementary assessment tools because they can 1) produce more consistent, rich and tangible data, 2) reduce teacher workload, 3) offer new and more enjoyable ways to teach and assess students with ASD.

Research

We need to expand the current body of empirical evidence on the potential benefits of ICT for educational assessment (including self-assessment).

CONCLUSION

The findings indicate that reporting systems can be a valuable complementary assessment tool for students with ASD. Teachers mentioned it met most of the requirements they had set. It helped students be more focused and engaged and perform better in various tasks. A basic requirement for the tool's effective integration in teacher's ongoing assessment is that more activities and games should be created that will assess a wider range of skills (e.g. academics and more autism related targets). Teachers need to utilise the interplay of learning and assessment provided by the games' environment so as to entice students, giving them more chances to succeed and enabling assessment of students' expanding potential. Next steps include to guide the creation of new games and activities based on ASD related targets from the SCERTS model.



A case report of a young adult with sensory processing difficulties, describing the impact on their functional behaviour and changes in occupational performance during three weeks of daily Occupational Therapy (OT) intervention using Ayres Sensory Integration® (ASI).

Project by Anna Jay and Louisa Hargett

CASE STUDY

OT using ASI therapy is commonly requested by the parents of children with ASD. However, current research evidence is limited to support the effectiveness of ASI.

ASI is a theory-based, manualised intervention involving sensory-motor activities that address an individual's strengths and needs within a context of play (Schaaf and Mailloux 2015). The emotional, social and physical effects of sensory integration (SI) dysfunction and resulting occupational performance deficits can provide rationale for the use of ASI within OT services (Smith Roley et al. 2015).

Practice using a manualised approach is necessary to inform research. Case reports are a research design that can guide knowledge about the dosage of treatment required to produce functional outcomes. Research of this nature is important as, if not addressed, sensory difficulties can lead to reduced quality of life and/or mental health issues that persist into adulthood.

Considering the heterogeneous ASD population, a qualitative case study approach is deemed appropriate to provide a contextual analysis.

Given her concerns about his transition into adulthood, O's (pseudonym) mother requested additional OT support, specifically ASI, at his annual review meeting. We had completed 50+ hours of SI education, had 3 years experience of using an SI frame of reference as part of our OT practice, and was in the process of completing SI Module 4 (Advanced Treatment), accredited by Ulster University.

O received a manualised ASI intervention in the school soft play room for 30 minutes daily over 3 weeks. Structural elements of the fidelity measure helped to determine the space and equipment needed for sensory opportunities and to perform adaptive responses. An experienced mentor provided supervision, periodically reviewing video footage using the fidelity measure to ensure adherence to ASI intervention principles.

To evaluate the effectiveness of ASI, a descriptive case study design was used. The Data Driving Decision Making Model (DDDM) (Schaaf 2015) was utilised in order to guide the therapeutic process, as recommended by research into ASI with ASD population. This case study proceeded with identifying O's strength and participation challenges through reviewing his case file, carrying out unstructured observations in school, unstructured teacher interview and a structured parent interview.

Background information indicated that many of O's presenting difficulties could be linked to sensory hyposensitivity and poor somatosensory organisation. To explore this hypothesis, a comprehensive assessment process was carried out, including the Sensory Processing Measure (SPM) (Parham et al. 2007), Test of Playfulness (ToP) (Bundy 2013), Pediatric Evaluation of Disability Inventory - Computer Adaptive Test (PEDI-CAT) (Haley et al. 1992) and Short Child Occupational Profile (SCOPE) (Bowyer et al. 2008). Developmental checklists, review of previous professional reports and unstructured observations were also completed. Unstructured observations of O within his natural environment were considered more appropriate due to the severe nature of his ASD and difficulties following structured therapist-led activities. Individualised goals were written with O's mother and teacher using Goal Attainment Scaling (GAS) (Kiresuk, Smith and Cardillo 1994), to ensure identified areas of difficulty were targeted and could be quantified for outcome measures. The Assessment of Motor and Process Skills (AMPS) (Fisher and Jones 2014) was used as an additional outcome measure to assess change in functional performance.

FINDINGS

Outcome measures, including goal attainment scales, were used to measure progress towards functional goals. A calculation of progress on O's GAS goals produced a statistically significant t-score result of 65.5. This score indicates that SI therapy had made a difference to O's behaviour as described on the GAS. Improvements on measures for occupational performance and behaviour were indicated across home and school settings. This case study provides support for the efficacy of ASI therapy with a young adult with severe ASD and moderate learning difficulties.

Progress on his goals demonstrates that O has shown increased independence in ADL activity, better quality of fine motor tactile discrimination, motor planning and eye-hand co-ordination. Less progress than expected was made for one goal, which was to reduce his anxieties about and be better able to tolerate multi-sensory environment as a basis for participating in group activities. Despite GAS demonstrating general improvement in his arousal levels, O continued to be visually distracted by his environment and needed to control visual order by handling and moving things in his environment. These behaviours may predominantly be related to the severity of his ASD i.e. insistence on sameness.

O's parents reported that he continued to request walks in his leisure time, which could be a potential challenge for his family trying to introduce new activities into his routine. His rigidity remained pervasive and he would choose walking even if other activities better meet his sensory needs.

Developmental progress was reported at home and school with changes in O's behaviour described as him demonstrating improved attentional ability and engagement across settings, particularly his active engagement and level of persistence when faced with challenges (i.e. asking for help rather than withdrawing or becoming frustrated). His mother also reported functional change in his play behaviour. He would demonstrate joint attention and shared enjoyment through picking out words from television shows and request to sign them together (previously he would flick through the channels without purpose).



Although the PEDI-CAT scores demonstrated slight improvements in his functional behaviours, this did not capture many of the qualitative variables that may have most contributed to the functional improvements reported from other outcome measures. Some of the items on the PEDI-CAT might require specific skill training and instruction, which are not the focus of ASI intervention. Nevertheless, positive changes in his behaviour and arousal level may contribute to O being readier for direct instruction on life skills activities as part of the preparing for the adulthood post-16 curriculum at school.

Assessment results have demonstrated improvements in O's occupational performance over 3 weeks of ASI intervention. A limitation of this case study's effectiveness is that the dosage was significantly lower than that used by other researchers whose intervention took place over a minimum of 3 months. However, a positive to this case report being conducted over a short period of time is that potential critique, that changes in O's behaviour took place due to natural maturation, can be disputed.

IMPLICATIONS

Practice in school

In conclusion, these findings support SI theory i.e. that organising sensory input influences adaptive behaviour responses and occupational performance. Although findings from this case report are not generalisable, they support the effectiveness of OT practice with a young adult with ASD when applying the principles of ASI.

Although a case study design with one individual has limited generalisation, it can provide preliminary support for the incorporation of ASI therapy as part of a comprehensive therapy programme to develop functional life skills in schools and colleges as part of post-16 special education curriculum. In accordance with the Children and Families Act education can continue, for young people with special educational needs, up to 25 years of age and ASI

therapy may have value in supporting a successful transition into adulthood for individuals with ASD who have functional challenges related to their SI difficulties. Future research with a longer intervention period and opportunity for follow-up assessment are needed to inform whether the observed positive changes in behaviour are maintained over time.

Research

Although it is not possible to generalise from a single case study, this research method can help to inform clinical practice and generation of hypotheses in the advancement of SI intervention research. It is important to investigate the dose, duration and frequency of SI intervention to guide future practice (Lane et al 2015; Schaaf et al 2015). This case study may provide a model to guide the development of future research projects which measure the effectiveness of ASI using larger participant numbers, particularly within school or college settings and with a high dosage and frequency of intervention.



Inclusion in Mainstream

The inclusion of autistic young people in mainstream school via the “resource base model.”

Project by Andy Nowakv

The primary question for this research was “How do students attending an autism-specific resource base view their school experience?” From this overarching question the research was designed to explore other areas of autism and inclusion from both a student and a theoretical perspective. Primarily the research explored the inclusive perspectives and values autistic young people in a resource base setting had and whether they matched inclusion theory. The findings from this question were then used to discuss the school experience of autistic young people in resource base settings and what teachers and designers of resource base settings are getting “right” in the provision and what they are getting “wrong.”

The research methodology was participatory and focused on using the autistic young people involved as co-constructors of knowledge of inclusion experiences. Before research began an extensive literature review was undertaken of both research on autistic young people in mainstream environments and theories and perspectives of inclusion. There is much research and literature for the latter and very little for the former. This conclusion provided a clear mandate for the validity of conducting qualitative research into educational experiences for this marginalised group. Initially a questionnaire was provided to participants based on Booth and Ainscow’s (2002) Index for Inclusion. The responses were collated to identify positive and negative themes and commentary on student school experience. These themes provided the basis for small focus group discussion with participants which was facilitated by the researcher, with discussions and conclusions lead by participants.

FINDINGS

Following analysis of the questionnaire responses and discussion in focus groups it was clear that the participants found their school experience largely inclusive. They were quick to highlight how they felt secure and safe at school, both socially and academically. They praised the positive and supportive relationships they had with staff and were generally appreciative of the autism-specific resources and approaches which were used to support their anxiety in managing day-to-day activities.

Three key themes emerged from the focus groups illustrating where participants were frustrated by the school experience and wanted change. Participants were keen on experiencing more learning and social opportunities with their peers. When challenged on this it became clear that social opportunities were the priority, although they had few suggestions of how this might be achieved beyond spending time in a shared location or experience with peers who did not attend the resource base.

Additionally, participants highlighted that they felt they had little “pupil voice” commenting that they were rarely involved in the decision making process surrounding the educational experience. The instances when they were involved were often tokenistic in design and delivery and participants expressed a desire to be considered as co-creators of their education, with more importance placed on what they valued and prioritised rather than always following the agenda of the adults supporting them.

Finally, participants discussed how they would like better relationships to be created between students at school. When questioned on how to do this they were unsure and the commentary appeared to be directly related to instances of negative behaviour from students towards each other and an expectation that adults were responsible for managing this and ensuring harmony in the resource base. Whilst there is an element of accountability for adults in this situation participants were unwilling to explore how they may be responsible for their own and other’s social behaviour.

IMPLICATIONS

Practice in school

The reflection from participants that their experiences of a resource base model were inclusive and positive suggests that there is validity in using the specific design and approach of Queensmill resource bases in other settings. The discussion from the focus group activity highlights that the involvement of students in designing their education and valuation of their voice are hugely important. Young people, autistic or not, are the key stakeholders in school and ultimately are who educational institutions are accountable to. It would be safe to predict that were the learners at Queensmill’s resource bases positively consulted and engaged in their learning and provision, teachers and leaders would be able to better provide meaningful teaching and learning, leading to the best possible preparation for life after school. As a leader in the development of Queensmill’s resource bases this is something I have worked hard to provide and has been met with very positive reception from students.

Research

The research highlighted three themes to be explored further:

- How to best support the needs of each student’s autistic profile and provide them with the freedom to make decisions and learn from mistakes in school.
- What are the most effective ways to harness the voice of autistic students in the co-construction of their educational experience?
- Further consideration of inclusive practices, specifically in relation to autism. With a focus on values and mechanisms which prevent the marginalisation of opinion and people within an already marginalised group.

Environmental Barriers

Exploring Environmental Barriers to Participation in School-Based Occupations for Students with Autism Spectrum Disorders.*

Project by Caroline Bulmer



* This project was completed as an MSC research study at the University of Cumbria.

Research in schools with students with autism spectrum disorders (ASD) often focuses on individuals' impairments rather than the suitability of the school environment. In order to examine occupational participation in schools comprehensively, environmental factors must also be considered. This research project examines the person-environment fit of students with ASD in schools with an aim to identifying environmental barriers to their participation in school-based occupations.

Semi-structured interviews (School Setting Interview, Hemmingsson et al., 2005) were conducted with 12 students from six different schools, in the North of England, who have a primary diagnosis of ASD. Three of the schools were autism-specific schools and three were mainstream schools. Information from the interviews is analysed to:

1. Examine the student-environment fit of young people with ASD;
2. Identify the school-based occupations that students with ASD have difficulties with;
3. Identify common barriers experienced by students with ASD from different schools.

FINDINGS

A range of school-based occupations were identified that commonly require adjustment for students with autism. Failure to provide effective adjustment in these occupations led to restricted participation or exclusion from participation. Five key barriers in the social and physical environment of the school were identified based on thematic analysis of interview data:

- Over-stimulating sensory environment
- Lack of clear way-finding systems
- Lack of effective pastoral support
- Behaviour of peers
- Lack of differentiation in practical subjects

IMPLICATIONS

Practice in schools

These findings suggest that schools, in particular mainstream schools, need to make changes in order to accommodate students with ASD more effectively. Recommendations made to achieve this include increased access to occupational therapy services and specialist teacher training. Outreach support from Queensmill School can support schools within the local area (London) to make appropriate adjustments for children and young people with autism to reduce barriers to their participation and inclusion. The assessment tool used is helpful in identifying barriers to learning and inclusion and devising appropriate adjustments for those students who are able to access this.

Research

The School Setting Interview is an appropriate and effective assessment for gaining the views of verbal students with Autism who are able to talk about their experience at school. Students with Autism are able to provide valuable insight into their school experience which can be examined on a larger scale to ensure educational provision for this group is appropriate and effective. The assessment tool can be used as an audit and/outcome measure to be used in schools and/or outreach services.

CONCLUSIONS

To conclude, based on the findings and implications, changes need to be made in order to accommodate students with ASD more effectively. Recommendations made to achieve this include:

- Increased access to occupational therapy services. With core skills in assessment, enablement, collaboration, problem solving and environmental adaptation, Occupational Therapists are in a key position to work in partnership with students with ASD and school staff to address specific environmental barriers in schools.
- Promotion of recommendations regarding inclusive design.
- Access to pastoral support with specialist trained staff for students with ASD to assist them in areas such as organisation and anxiety management.
- A whole-school approach to raising awareness of ASD and disability discrimination and specialist training for teachers in how activities can be differentiated for students with ASD.



Joint Attention & Circle Time

Investigating strategies to promoting joint attention skills in circle time.

Project by Aymeline Bel



Two aspects led me to choose this study. Firstly, my own practice of circle time has evolved through observing different approaches around the school and adapting them to the needs of my pupils. I observed that the way the adult interacts with the students has a positive impact on their communication so I wanted to evidence the effectiveness of my practice. This is confirmed by a research project where Adult Interactive Style (AIS) was used. AIS includes a range of techniques (similar to drama) such as the use of exaggerated facial expression and body language. I therefore decided to employ a similar strategy in my research project.

Secondly, research and my experience show that joint attention skills (ability to share an interest in an event or an object with another person) are lacking in children on the autism spectrum and that these skills are at the heart of language and social skills development. I therefore chose to implement a strategy to promote joint attention skills in my circle time. This strategy is to use motivating toys/objects near the face of the adult in order to attract children's eye gaze and therefore to motivate the child to engage in joint attention episodes. My project aimed to find out the benefits and limitations of the two strategies

implemented at circle time (AIS and the use of motivators to attract pupils' attention) and to investigate if and how they make circle time accessible for pupils on the autism spectrum. It also aimed to identify principles applicable to every Key Stage and to discover if my practice of circle time has good outcomes on pupils' communication and joint attention skills.

SAMPLE

Two boys who were not engaging in episodes of joint attention. Both were non-verbal but one was beginning to use some single words to request food. Regarding their social skills, one was initiating interactions more often than the other.

METHOD

Action research which was a cycle including different steps: observing elements of practice which needed evidence (my way of interacting with the children at circle time) and others to be improved (joint attention, practice of circle time around the school) reflecting on them which provided a plan, acting (implementation of my research project in my setting) following the plan. After acting, I have observed other elements to change, which would have led me to another cycle if I would have pursued the research for longer.

I organised observations of circle time sessions through video recording and the keeping of a diary. My circle time was structured in four different phases (hello, who is at school, what day is it and singing), each phase includes individual interactions between adult and a child and singing episodes. Circle time sessions lasting 15 min were recorded, three times a week over a three week period. During the first week, no strategy was implemented and the data collected was the control. The two strategies were implemented the following two weeks with the two concurrently in week two and AIS alone for week three. The diary was completed daily with my observations and thoughts after a session.

FINDINGS

Results were similar for both students. An increase in both spontaneous communication and joint attention when using the two strategies was observed. The use of motivators doesn't appear to promote joint attention. Data from observations shows that the adult is already a motivator before the implementation of preferred toys/objects as the children showed an interest (although slight) in the adult also in week one (when motivators were not used). This interest increases as well as spontaneous communication and joint attention with the implementation of the two strategies concurrently and remains in week three when the use of preferred object is stopped. In addition, when the adult is interacting individually with each child using their motivator, they show more interest in the object than the interaction. This high interest from the children towards the object increases protestation from the children, when they cannot get the toy but limits the possibility of engagement in di or triadic interactions.

The use of AIS by improving communication, joint attention and establishing the adult as a motivator, therefore makes circle time valuable in a comparable way as it is for typical children.

IMPLICATIONS

Practice in school: It evidenced the good practice of circle time around the school. The use of AIS has "spread" throughout the school and has hopefully positively impacted on pupils' joint attention and social communication skills.

Following the research, drama projects have been organised to support staff in increasing their confidence in using AIS and to expand the range of opportunities (outside of circle time) where pupils' joint attention and social communication skills are promoted.

Since September 2017, in house drama sessions have also been implemented to pursue similar aims as during the drama projects.

Research: It contributed to the debate of the accessibility of circle time by pupils on the autism spectrum but also to effective interventions in promoting pupils' joint attention skills. It evidenced the good practice taking place at Queensmill which contributes to bridging the gap between practice and research. This subject is very important in the current educational research.

CONCLUSION

Using AIS had positive outcomes on pupils' joint attention skills and made circle time more accessible for pupils on the autism spectrum.

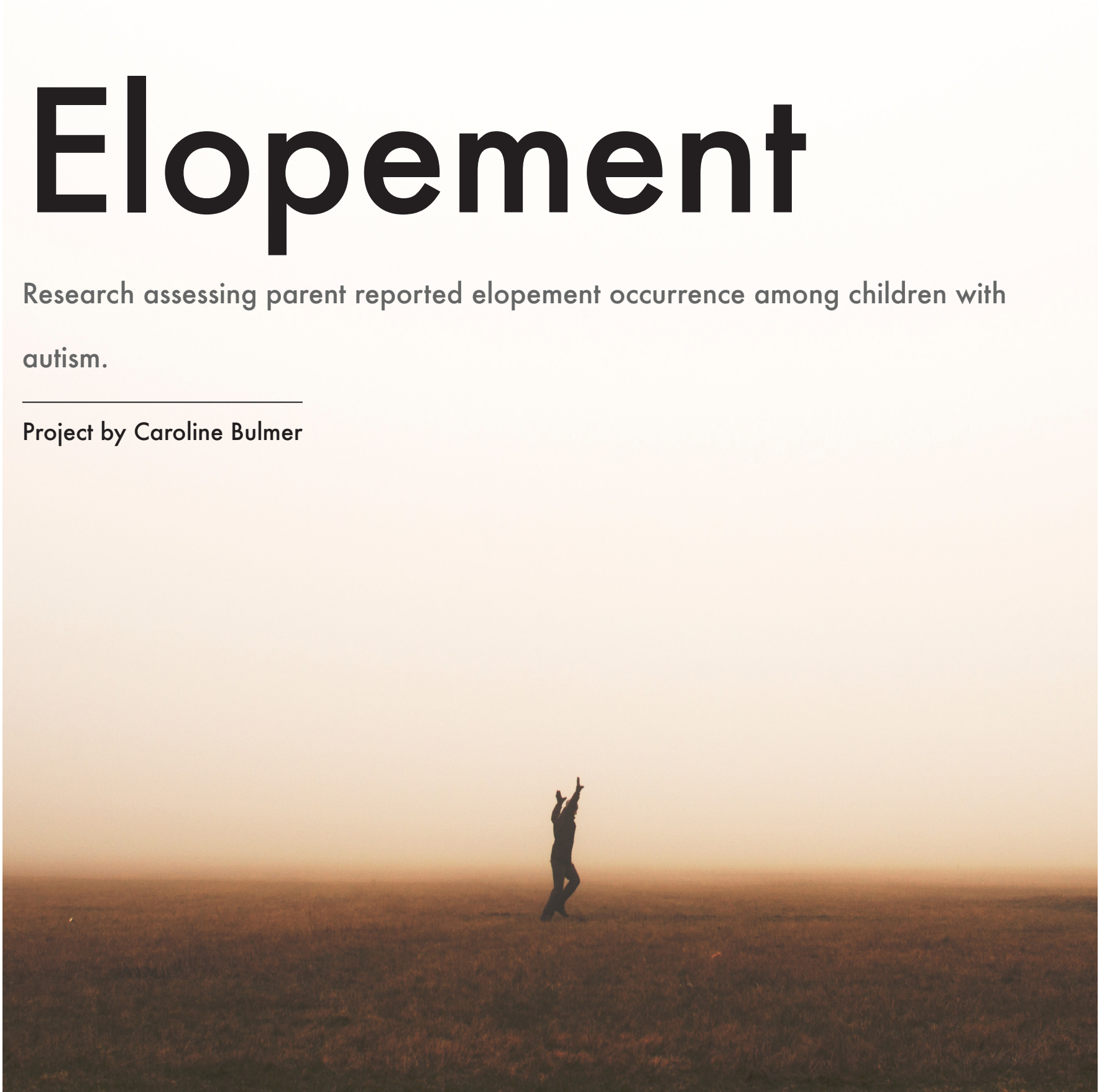
If the research were to be replicated there would be a number of costs to take in to account; particularly, staff time (researcher) and for different tasks: filming, filling in observation forms, writing the research diary, analysing the results. Furthermore, not all staff are willing to use AIS (e.g. due to shyness) which is important to consider and some additional training might be appropriate.

The next steps would be for changes in practice for circle time to be spread throughout the school, and that the use of AIS is spread throughout the day by all staff. Furthermore, for the creative arts department to promote and make arts (music, drama and art) more accessible, especially getting all our pupils to theatre.

Elopement

Research assessing parent reported elopement occurrence among children with autism.

Project by Caroline Bulmer



Recent research (Anderson et al., 2012) assessing parent-reported elopement occurrence among children with ASD used a sample of 1218 and demonstrated that:

- 49% of survey respondents reported their child with an ASD had attempted to elope at least once after age 4 years;
- 26% were missing long enough to cause concern;
- Of those who went missing, 24% were in danger of drowning and 65% were in danger of traffic injury.
- Elopement risk was associated with autism severity, increasing, on average, 9% for every 10-point increase in Social Responsiveness Scale T score;
- Unaffected siblings had significantly lower rates of elopement across all ages compared with children with ASD.

FINDINGS

Elopement occurrence – 47 questionnaires were returned by parents to Queensmill School (34%).

- 83% of respondents said that their child attempts to wander off (either occasionally, frequently or always). See Figure 1.
- 53% of respondents said that their child has gone missing at least once.
- Of those who reported that their child had gone missing and provided details, 29% went missing from home and 71% when out in the community.
- Children were missing for between 5 minutes and 1 hour.

The most common possible reasons for elopement identified by parents were their child:

- Wanting to explore;
- Trying to get to a specific place or item (e.g. shop for biscuits/sweets, park, swimming pool);

- Being distracted by their environment (finding it difficult to stay with an adult when out in the community).

Findings: Parent support

- 94% of respondents said that they had not received any support or advice on preventing elopement.
- 87% indicated that they would like support and/or advice to address this issue.
- In particular, parents said they would like to receive written advice and/or attend a parent workshop.
- Other support strategies suggested were working more closely with/offering training to the police and teaching children about staying with adults.

IMPLICATIONS

Elopement is reported by a large number of parents of Queensmill students (83% of respondents) and is an issue that parents would like support with. Queensmill staff (Occupational Therapy team and Parent Partnership link) will therefore provide this support in the form of written advice and a parent workshop. Information provided to parents will be informed by research on the effectiveness of interventions to treat elopement in individuals with developmental disabilities (Lang et al., 2009) and will involve liaison with local services such as the police and social services. Feedback will be gained from parents following intervention to identify the impact.

CONCLUSIONS

Conclusions highlighted the urgent need to develop interventions to reduce the risk of elopement, to support families coping with this issue, and to train child care professionals, educators, and first responders who are often involved when elopements occur.

In response to this research and an increase in the number of reports of elopement from families of Queensmill students, a questionnaire was sent out to all parents/carers of students (n=132) to seek information about elopement occurrence, the perceived function of this behaviour and the support needs of parents in addressing this issue.



POST-16

What happens after leaving special school for young adults with autism?

Project by Catherine Carroll

METHOD

Parents/carers of past pupils took part in a survey to find out:

- The current activities and outcomes for their son/daughter since leaving special school.
- Parents' views on the support for transition they had received for their son/daughter.

How we did it:

- Parents of past students were sent a survey that could be completed on paper or online through the participating PLASN schools.
- Approximately 190 surveys were sent to schools and 31 responses were received.

The young people ranged from 16–26 years old (average age of 20) and included six females and twenty-four males. Almost all the young adults had been identified with ASD before the age of five. Over 60% of the young people were of white ethnic origin.

FINDINGS

What were the current activities and outcomes for the young people since leaving special school?

The majority of the young people were living at home with parents, four were in full time supported living, two in 52-week residential college and one in a residential care home.

Just over half attended a FE college with the rest of the cohort attending different types of placements.

Four of the young adults were not in education, employment or training and one young adult had full time employment in a garden centre.

A wide range of qualifications had been attained to date, with most at levels below GCSE. A few young people had gone on to take GCSEs and A Levels and one young person was studying at university.

The three most popular leisure activities were shopping, listening to music and using the internet. The three least popular activities participated in were sporting past times, meeting up with friends and playing computer games.

Parents'/carers' views on the support for transition they had received for their son/daughter:

Parents/carers were also asked to rate their overall level of satisfaction with transition support and over half responded that they were satisfied or very satisfied

Parents/carers reported most satisfaction with support for transport (90%), mobility (85%), self-care (83%), adult/sex relationships (80%), housing (79%), further education and training (78%) and leisure and social activities (70%). Parents were least satisfied with support for short breaks and respite (62%), benefits and transfer to adult mental health services (50%).

Just over half the parents/carers had, or continued to have, a named professional for transition support.

The young people had seen a range of professionals in the four months before the survey, with a doctor being the most common.

IMPLICATIONS

The parents/carers who took part in the study was a small proportion of all those contacted so these findings may not be representative of the experiences of the group as a whole.

However, they do show that despite a specialist school placement, students follow different pathways in terms of education placements, academic attainment and living arrangements after leaving school.

The findings show that the parents/carers were split quite evenly between being satisfied and dissatisfied with the support they had received to date for transition.

Yoga

Does yoga therapy help children with autism “get ready to learn?”

Project by Agnieszka Marszewska



Pupils took part in a study to find out whether it was possible for schools to run daily yoga sessions in the classroom; and explore what kind of outcomes could be measured in a research project of this kind and how it should be measured.

How we did it:

- Teachers attended training at the Special Yoga Centre
- Students' level of attention was observed in class
- Questionnaires were completed by parents and teachers
- Students completed some activities with a researcher

During the time that yoga sessions were being carried out:

- 40 students took part in daily DVD Yoga sessions in five London classrooms
- Yoga instructors from the Special Yoga Centre visited each class to support the teaching staff in delivering the yoga sessions
- Teaching staff completed weekly reports of how many sessions were completed and any issues they had with the yoga that week

After 12 weeks of yoga:

- A recording of a yoga session was taken in each classroom
- Each child's attention was observed in class
- Questionnaires were completed by parents and teachers
- Students completed some activities with a researcher

Who was involved in the study?

- The students ranged from 7-11 years of age
- All of the participants had a diagnosis of ASD

FINDINGS

There were several positive findings from the research. It is possible for schools to run daily DVD yoga sessions in the classroom. Children received an average of 39 sessions. Some of the questionnaires we used were not precise enough for what we wanted to measure so our in-class observations were a better indicator of change.

Parents'/carers' views:

- Some parents reported an improvement in their child's ability to regulate emotion at home
- Some parents reported a potential improvement in their child's sleep
- Some parents told us that it was difficult to answer some of our questions about their child because it was difficult to know the answers due to their child's communication style
- Some parents felt that a yoga program with more 1:1 input would benefit their child more

Teachers' views

- Teachers in some classrooms reported that the yoga helped them to be calm
- Some teachers enjoyed time to bond with students without the pressures of teaching
- In some classes, staff felt that a program that could be modified to more closely match ability would be more suitable.

CASE STUDY

Difficulties faced by student before the intervention included: poor social skills, lack of sleep, lack of engagement with learning. The student is a very active child and finds settling down difficult. He is quite verbal and can be overzealous with social interactions. He also gets overstimulated in busy or noisy environments and gets frustrated when he is required to wait or an activity is too slow. The student likes routine and any changes can cause him distress.

The yoga teacher established a clear session structure starting with singing, breathing exercises and alerting poses, followed by calming poses and closing the session by saying "Namaste."

Singing in yoga is a form of getting a child's attention, bringing their presence into the room. Initially the student would struggle to wait for his turn but after a few sessions the consistency of routine made him calmer and more engaged.

Breathing is one of the most important parts in yoga. Children with ASD often have disturbed breathing patterns hindering their ability to fully relax. The student's exhalations were short and rapid, indicating an anxious and tense state of mind. Work with sensory toys can teach children to lengthen their breath. The student managed to master it quickly. It helped bring attention to his breathing; slowing it down and deepening it, eventually using it as self-regulation tool.

At first, finding stillness for the student was a challenge. He would talk throughout the session and was jumping in and out of the positions. The yoga teacher assisted him closely, reminding him to breathe, guiding him with her own breath, applying deep pressure to ground him, counting down when he was in a position, as well as chanting which helped him to maintain concentration. With time he became more focused, instead of talking he would breathe or sing.

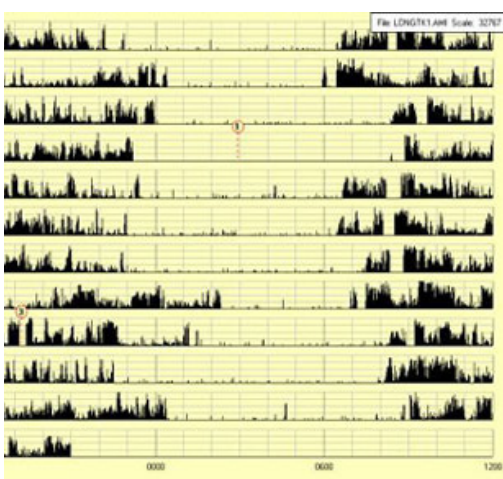
At present the student's behaviour changes almost immediately after entering yoga room. He finds the space soothing and sits on his mat with anticipation. He is also able to control his breath and body more, moving fluidly between alerting and calming poses, from muscle flexion to complete relaxation and surrender. When it's time for relaxation he requests a lavender eye pillow and rests motionless. He has also gained more confidence. Yoga empowers him, gives him a feeling of accomplishment. After the afternoon session he is ready to get on the bus calmer, which helps him and his family to cope in a busy home environment.

FUTURE RESEARCH

Queensmill is a proud research and training school that supports both internal and external research projects. Below are a few of the many exciting ongoing and future projects taking place.

Sleep in adolescents

This study aims to gather information about teens' sleep practices in adolescents with autism. It hopes to gain a better understanding on what factors might pose a positive or negative influence on sleep. The teens will wear an Actiwatch Mini (CamNTEch, Cambridge, UK), which will measure the sleep/wake patterns through movement using an accelerometer set in the small device. It will reveal information about the child's sleep duration and sleep quality.



De-enigma

The Centre for Research in Autism and Education (CRAE) at University College London ran an ongoing project called De-Enigma at Queensmill school. They were looking at whether a human-like robot can help children on the autism spectrum to learn to use and understand emotions in faces, voices and bodily movements. The teaching sessions included a number of games and stories to teach the children about emotions. The games and stories during the teaching sessions with the robot and child were then introduced to the parents. The project wanted to see whether what the children learned about emotions with the researcher and robot would be used with other people.



PACT-G

Paediatric Autism Communication Trial-Generalised is a research study investigating the effects of a social communication intervention for children with autism. A previous study by the group showed that, on average, the therapy helped children communicate socially more with their parent. However, the therapy did not help children communicate better with adults outside the family as much. The current study aims to help children to generalise what they learn across varying contexts and individuals.



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