



Busy Analytical Bee

NEWSLETTER March

Welcome to the March edition. In this edition, I review the research around dental visits, as this can be a challenging for many parents (and people in general!). This edition is also an interview edition and I am excited and honour to announce this month I am joined by Bethan Mair Williams, BCBA, SLT. Also, there is shaving foam activity (NET), events and much more to check out! Have a great month!

Kirsty Angel M.Sc. BCBA (Author)

VISITING THE DENTIST

Going to see the dentist can be a daunting experience for most people. Dental hygiene is very important, although it is estimated that 58% of children and 52% of adults visit the dentist regularly (Chemist 4 U). In addition, it is estimated that quarter of children have tooth decay (Chemist 4 U). People may avoid the dentist because they find the experience unpleasant. Many children find it an aversive experience going to the dentist and may refuse to sit in the chair, and engage in uncooperative behaviours which make the procedures difficult or impossible. This can be a large concern for parents who want to ensure they children are able to attend their dentist appointments without their child finding it so distressing.

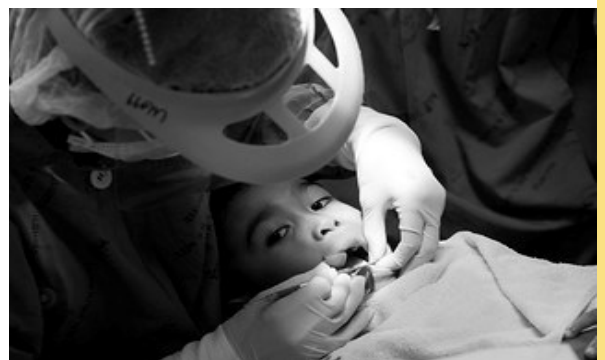
Researchers have investigated a variety of procedures that can reduce the distress, and increase successful dentist appointments. Armfield & Heaton (2013) highlighted all the main approaches that have been adopted in decreasing fear and uncooperative behaviours during dental visits and procedures. Popular behavioural approaches include giving non-contingent negative reinforcement in the form of breaks (non-contingent = not related to behaviour; breaks given regardless of behaviour occurring or not), and increasing the time in the chair. In addition pairing (building rapport and trust, communicating), using positive reinforcement (praise, prizes and stickers), and modelling. Also other popular

interventions include 'show, tell, do' which involves explaining procedures before hand, hypnosis, relaxing breathing and guided imagery are amongst a few reviewed by Armfield & Heaton (2013).

Research conducted involved increased time in the chair and lying still and using promised reinforcers and stickers and praise (Allen & Stokes, 1987). This supports gradually increasing time in the chair and desensitisation, giving intermittent breaks from procedures and reinforcement. Another study used MotivAiders to signal to the dentist to give non-contingent breaks on an initial 10-second Fixed Time (FT) schedule, which was increased to 15-second FT (Allen & Wallace, 2013). They observed a successful decrease in vocal and physical disruption to the procedures. When compared to a control group, the intervention group spent more intervals in the chair without challenging behaviours and required less physical restraints than the group receiving treatment as normal. Additional, O'Callaghan et al (2006) found success using a MotivAider. The dentist explained to the child the buzzer would signal breaks, and then would practise breaks with the child every 20 seconds when they felt it buzz. The practise phase lasted 2 minutes and breaks would last 10 seconds.

Researchers also included a modelling component to their interventions. In one study, participants arrived early and observed a video of peer receiving a Orthopantomographic examination (Sakthivel et al 2013). The researchers observed a decrease in the percent of uncooperative behaviours. They suggest this supports the theory of social learning theory, but also that the

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fear in children may be evoked by the “unknown” and watching the clip also demonstrates the procedure so they understand what to expect. Modelling was successful for Stokes & Kennedy (1980) whose participants arrived 10-15 minutes early and observed another child in the chair. They also used positive reinforcement including smiley stamps and praise, and explained procedures to the child before they began.

These studies support using similar strategies founded with the principles of Applied Behaviour Analysis. When developing individual interventions it is good practise to consider the individual. One child with more significant difficulties may require an intervention with more components to ensure success. Rocha (2012) commented about developing psychological interventions for children with special needs requires careful consideration of the individual needs and that one intervention may not be suitable for each child. Speak to a Behaviour Analyst regarding the development of an intervention around Dental visits and procedures. If you want to learn more about phobia's and fears, check out the [June 2019 edition](#).

Chemist 4 U. (2018, Nov, 26). Dental Statistics, Retrieved from: <https://www.chemist-4-u.com/guides/pharmaceutical-advice/dental-statistics-uk>

Allen, K. D., & Stokes, T. F. (1987). Use of escape and reward in the management of young children during dental treatment. *Journal of Applied Behavior Analysis*, **20**, 381-390.

Allen, K. D. & Wallace, D, P. (2013). Effectiveness of using noncontingent escape for general behavior management in a paediatric dental clinic. *Journal of Applied Behavior Analysis*, **46**, 723-737.

Armfield, J. M. & Heaton L. J. (2013). Management of fear and anxiety in the dental clinic: a review. *Australian Dental Journal*, **58**, 390-407.

O'Callaghan, P. M. Allen, K. D., Powell, S., & Salama, F., (2006) The efficacy of noncontingent escape for decreasing children's disruptive behavior during restorative dental treatment. *Journal of Applied Behavior Analysis*, **39**, 161-171.



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Rocha, J. C. (2012). Study of the psychological preparation on the dental care of children with special needs. *Brazilian Dental Science*, **15**(4), 55-60.

Sakthivel, R., Poornima, V., Jayanthi, M., Reddy, V. N., Selvaraju, G., & Sakthivel, M. R. (2013). Evaluation of anxiety and the effect of modelling in children undergoing orthopantomographic examination. *Journal of Indian Academy of Oral Medicine and Radiology*, **25**(4), 274-277.

Stokes, T. F., & Kennedy, S. H. (1980). Reducing child uncooperative behavior during dental treatment through modelling and reinforcement, *Journal of Applied Behavior Analysis*, **13**, 41-49.

EVENTS

Child Autism UK offer a variety of events for extending your skills and knowledge. These include an introduction ABA Tutor Training, Advanced ABA Tutor Training, Lead Tutor Training and more! Learn more on their [courses page](#).

Wanting to learn more about Acceptance and Commitment Therapy (ACT)? Contextual Counselling are holding a workshop in London with Russ Harris on 23rd and 24th March. [Learn more](#).

Association of Behavior Analysis International (ABAI) will be hosting a conference in Dublin, Ireland in September 2021. To learn more, visit the [event page](#).

TERMINOLOGY

Setting Events: Setting events are described as antecedent events that are not close temporally to behaviours, but increase or decrease the probability of a target behaviours. This can include tiredness, sickness, getting stuck in a traffic jam, etc. These events will impact the likelihood of behaviours occurring. An example would be if you are tired or you've been stuck in traffic in the morning you may be more likely to snap at your colleagues later that day. Check out the [July 2017 edition](#) to learn more about Setting events.



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Interview

Bethan Mair Williams, BCBA, SLT

I am very excited to release this interview edition. One of the first dual certified Behaviour Analysts in the UK, Bethan Mair Williams, BCBA, SLT. Bethan is not only a Speech and Language Therapist (SLT) and a Board Certified Behaviour Analyst (BCBA), but also the Chair of Royal College of Speech and Language Therapists (RCSLT) clinical excellence network (CEN) for SLTs with an interest in ABA and Post-graduate research supervisor for Queen's University, Belfast. It is a real honour to hear about her career and work, which she speaks so passionately about. Welcome Bethan, firstly tell us a little bit about yourself and how your career began?

I've always been interested in language and communication, probably because I was brought up in Papua New Guinea (PNG), the most linguistically diverse country in the world (over 700 languages) by an English mother and Welsh father and speaking both languages. That of course wasn't a big deal to most people in PNG, who usually speak three or more! I've lived all over the world as both a child and an adult (Zambia, Bangladesh, Russia, Turkey, Botswana, France, USA) and have always made an effort to learn something of the language of where I live. I'm off to Ethiopia this Spring, where my husband is working right now, so have started learning a few words of Amharic in preparation. I'm married to a Welsh man and we speak Welsh with our children. My sisters are married to a French man and a Korean man, and also have children, so when we all get together, there are at least four languages being spoken.

I did a French and Linguistics degree, which had a module on Language Pathology in it, taught by the titan, David Crystal. I found it so interesting, that I began to look into Speech and Language Therapy, and as luck would have it, at that time (early 90s) in Wales, there was a great deal of money in developing services for people with Learning Disabilities, so I was sponsored to train as an SLT as a post-graduate. Fast forward 15 years or so, and I learnt about PECS (Picture Exchange Communication System) which is of course based on behaviour analytic principles. I found it so exciting and I saw children I worked with having so much success with it, that I approached my local university (Bangor) about the possibility of formal evaluation. It so happened that the person I met was Professor Carl

Hughes and he told me that he and other colleagues had just started the first MSc in Applied Behaviour Analysis (ABA) course in Europe. I was intrigued, although I didn't really know what ABA was, so I then enrolled on the course, which changed my life in so many ways. Carl very kindly gave me supervision which led me to achieve BCBA status in 2013, and to become the first dually qualified person in the UK. I worked in the NHS as an SLT for 20 years, but left 5 years ago to go freelance.

As we've mentioned you have a dual qualification, so how does this impact your approach to developing interventions for the children you work with?

In a nutshell, speech and language therapists have a very good training in the developmental trajectory of language and its traditional taxonomies (e.g. syntax, semantics, phonetic and phonology, prosody). What they aren't so good at is designing measurable therapeutic interventions based on evidence, particularly in the field of paediatric communication. This is acknowledged by our professional body, the Royal College of Speech and Language Therapists (RCSLT) following a Cochrane review in 2003. Subsequently, in 2009, the Department for Children, Schools and Families stated that 'the existing research literature is insufficient to act as a base for a robust estimation of the costs and benefits of investment in services for children with Speech, Language & Communication Needs. Far more research is required to understand for whom and under what circumstances treatment is effective'.

Behaviour analysts are as we know, experts in bringing about measurable meaningful change using ethical scientific principles. As I progressed throughout my career as an SLT I realised that I knew what it is I should be working on but wasn't always sure exactly how to go about it. By combining my skills as both an SLT and a BCBA I feel I give those with whom I work, the best possible chance of meaningful outcomes. Incidentally, one of my colleagues and supervisees (as both an MSc in ABA student and a BCBA candidate), Tara Millen-Brophy, completed her MSc research on this topic, seeking the opinions and experiences of a large number of SLTs and BCBAs. It is entitled 'I know what to teach but not how to teach it.'

That's really interesting. Who has inspired you the most as you have progressed through your career?

I've been inspired by different people at different times. At present those who inspire me most are the members of the RCSLT clinical excellence network for SLTs with an interest in ABA which I chair. Sonya Mulvaney (BCBA & SLT) and I co-founded this nearly three years ago and now have over 80 members. Half of us are SLTs and half are behaviour analysts who wish to work productively with SLTs. We now have 6 dually qualified individuals in the UK, myself, Sonya, Hannah Lynch, Rochelle Grey, Mags Kirk and Cynthia Ewers-Cobb. I am inspired by all of our members because of their commitment and their urge to learn more and to help and support each other. The person who has helped us most and provided the template for all we do is Nikia Dower (BCBA & SLT) who lives and works in the States and is one of the founding members of the Speech Pathology-Applied Behavior Analysis Special Interest group. They have over 6000 members of their Facebook group and there are 366 dually qualified individuals in the States with another 43 elsewhere in the world (including the 6 of us currently practicing in the UK).

The people who really got me interested in ABA (without me knowing anything about ABA at the time) were Lori Frost and Andy Bondy who of course developed the Picture Exchange Communication System (PECS). I went on a course about 17 years ago and it just blew my mind as I had never before been exposed to a clear protocol with regards to communication. When I began to use it with teaching colleagues, we had amazing results. I am now proud to call Lori and Andy friends and colleagues and they have continued to help and inspire me. I believe that no other ABA professional has been as successful as they have in disseminating behaviour analytic practice throughout the world.

My interest in PECS led me to eventually begin an MSc in ABA at Bangor University, which is my local university. Once again, this was a Damascene conversion as I began to learn and then put into practice all I was learning about. I am eternally grateful to Professor Carl Hughes and Doctor Mike Beverley who taught me so much and who were endlessly generous with their time and their expertise. Carl provided me with all my supervision hours when I was preparing for the BCBA exam, so we had many hours sitting in his office with me going through a long list of questions. Carl and Mike piqued me enduring interest in Precision Teaching, Direct Instruction and TAG-teach, which remain my main areas of clinical interest.

So the development of PECS changed the trajectory of your career, that's really cool! Many of my readers are parents, so do you have any advice for parents?

Sadly, I would have to say to them to not put their faith in the public sector whether that be health or education. I emphasise strongly that there are many fantastic therapists and educational staff working very hard at the front-line, but I do not think the system is engineered to offer meaningful help. SLT for example usually falls under the remit of the NHS and as such communication issues are treated as quasi medical issues which they are not. Therapists are pressurised to process cases quickly and discharge and as we know, communication issues do not disappear after an episode of care. Clearly the best way forward is to train and support educational staff, but generally speaking this is not seen as a priority.

The challenge is how to procure the best services for your child without seeming antagonistic to those on the frontline. I would advise parents always to ask question about how progress (or otherwise) is measured and to ensure there is formal baseline and then benchmark assessment. Too many SLTs rely on opinion and personal judgement. Ask what the evidence base for a particular approach is. The chances are, there isn't one. That does not mean to say that we cannot build evidence for an intervention, but to do so means careful monitoring of progress (or otherwise) and unfortunately, SLTs are not generally well trained in the field of measurement and objective evaluation of interventions.

Clearly, I would not have become a BCBA had I not felt that this profession has something to offer. Many of us would like to see more BCBAs in the public sector but even if they were, the sad fact is, we are only adding another layer of consultancy. The only meaningful change will come when more time and money is invested into those who work directly with the populations we serve, (usually 1:1 classroom assistants and support workers) and when they are paid properly. There are so many layers involved now in so many cases, it would probably be more cost effective to employ a BCBA to work directly with children. I do some work in the UK for American insurance providers and interestingly, this is how they expect us to work, directly with the children on our caseload. There is no devolvement of responsibility to others. I really enjoy the opportunity to work hands on with children after years in the NHS where it seems so much effort and money is put into avoiding any hands-on work! My first love is working in classrooms directly with classroom assistants and enabling them to become agents of

meaningful change in the lives of children. However I am mindful of the fact that those who work in classrooms are sick and tired of allied health and education professionals trooping in and telling them how to do their jobs whilst never having done it themselves.

Many BCBAs have never worked in the public sector and as such, have no idea how schools work and under what contingencies they operate. This and the fact that so many ABA professionals are only familiar with an intensive home- based model of intervention can be a recipe for disaster and lead to much antagonism and misunderstanding with schools and education officers. As such, I would always suggest asking professionals you are going to work with about their experience in schools.

Strip back on how many people are involved with you child. The old adage about too many cooks spoiling the broth is very true. The more people there are, the more time and energy is wasting on meetings, petty disagreements and (usually fruitless) attempts to bring everyone together at one time.

If you (like most people) have limited funds to invest in behavioural services, the most useful thing of all is I think a one stop 360 degree assessment such as ABLLS or VB-MAPP (if appropriate to the child's needs and ability). In the public sector, assessments are never all done at the same time so it is impossible to get a thorough picture of all a child's needs and strengths as you do with these assessments. Ask your ABA professional to summarise the findings in non- technical language to share with other professionals.

That is definitely really helpful advice. Any advice for people beginning their career in Behaviour Analysis?

Stop thinking that ABA is a therapy (it isn't) and just for kids with ASD. End the obsession with percentage correct endemic in home programmes. Skinner considered his greatest contribution to science to be his understanding of the role of frequency in behaviour. For that reason Precision Teaching and the use of the Standard Celeration chart are probably closest to what Skinner envisaged as the useful application of his findings. Spend time with people who work with animals, read Skinner's original works and take time to find out what those who work in labs do with animals. Also, train an animal yourself. I started off with a goldfish and now am trying to arrange a chicken training camp in North Wales. Look into TAGteach (clicker training) and the amazing work of my friends and colleague Joan Orr, Theresa McKeon and Martha Gabler. Read Julie Vargas' seminal book Behavior Analysis for

Effective Teaching and Myths and Misconceptions about Teaching: What Really Happens in the Classroom by Vicki Snider. Also anything by the wonderful Karen Pryor. Spend time working in schools to understand what a truly difficult job teaching is and to appreciate the myriad challenges faced by teachers.

What are your hopes for ABA in regards to SLT professions or generally in the future?

My hope is to increase the number of dually qualified individuals working in the UK. As I mentioned earlier, there are currently 6 and this number should double in the next three years. Some started as SLTs and became BCBAs and others did it the other way round. Worldwide, there are 409 dually qualified individuals. In GB & NI there are currently approximately 17,000 speech and language therapists (SLTs) and 268 board certified behaviour analysts (BCBAs). I think the combination of these disciplines is truly dynamite, but at the same time, I understand that not everyone wants to retrain after already completing onerous training in a profession. For that reason, I am happy to promote increased understanding and collaboration and for SLTs to understand what BCBAs have to offer them and vice versa. I was not given any support or encouragement to pursue either my MSc in ABA or my qualification as a BCBA by NHS Wales when I worked there. Quite the opposite in fact! I was actually told I was 'too ambitious' and worked 'too hard and too fast'. I had to do all of my studying while working full-time in a very hostile atmosphere whilst caring alone for two small children as my husband was abroad. One of my children also had significant communication issues which were not addressed satisfactorily by the SLT department for which I ironically worked. All of these experiences have made me determined that no one else rising through the ranks and eager to learn will ever have to endure such punishing contingencies and hostile conditions and our CEN members provide us all with care and kindness and professional support, which makes me very happy indeed.

A special thank you to Bethan for taking the time to do this interview. It is such an honour to be able to hear all about your career and approach. This was a very inspiration read. If you want to learn more about Bethan, you can check out this [previous article](#) she wrote. Additionally Bethan recommends the following books on [Amazon](#); [ABA for SLPs](#) and [Behavior Analysis for Effective Teaching](#). Also Bethan has mentioned that there are now SEVEN dual certified SLTs in the UK since she completed this interview, Congratulations to Judith Thomas!

NATURAL ENVIRONMENT TEACHING (NET) IDEA

Shaving foam is a great activity although it can be messy! This is great for pairing and manding. It allows opportunities for manding for items, including tray/plate, shaving foam and colours (by using food colouring) or rice for a new texture. Adding some other items can help increase the number of opportunities for mands and generalisation, for example, spoons, forks, cups, etc. (mand 1-5M). Flower pots a fun addition; turn one upside down, spray foam on the base, add food colouring if you like and then close another flower pot on top and the foam will squirt out of the top. This activity allows opportunities for requesting for actions, e.g., spray/squirt or pour (mand 7M). For simple instructions you can use Motor Imitation, for example “do this or “copy me” (MI* 1-5M) and receptive (LR** 4M, 8M) or tact of actions (tact 8M), for the targets ‘clapping’, ‘squeezing’, ‘pouring’, ‘spraying’, etc.. In addition if you include food colouring you can include targets around this, for example “find red [food colouring bottle]” (LR** 10b), or “what colour is this?” (tact 10d). (N.B. I use travel bottles that have spray tops, as I find these easier to control!). You can use laminated picture of reinforcing TV characters, numbers, letters (or anything related to current targets!) to hide in the shaving foam. Hiding pictures or objects will allow you to generalise so many targets as receptive (LR 5-7M) and labels (tact1-7M). Hidden pictures could also allow opportunities to include any intraverbals targets, for instance a picture of a spider could prompt the song “Incy Wincy Spider” (IV± 6c, 8c), or Feature, Function, Class targets, “What does a spider have....[legs/eyes]”, or “What is a spider a type of ... [animal/insect]” (IV± 9M). Also you could practise writing for encouraging fine motor skills (writing 11a, 11c, 11M, 12d, 13a).

Preceding skills reference to the VB-MAPP Assessment tool:

Sundberg, M. L. (2008) Verbal Behavior Milestones Assessment and Placement Program: The VB-MAPP. Concord, CA: AVB Press.

*MI—Motor Imitation. **LR-Listener Responding. ±IV-Intravebal

Picture from: <https://flc.kr/plz4f6hGR>



STUDY TIPS

Avoid bootleg reinforcement! Bootleg reinforcement is when you can access reinforcement without meeting the response criteria! For example, if you set the criteria of “I’ll study for three hours and then I’ll treat myself to a take away”, but you study for two hours and you think to yourself “two hours is good enough and you have been working really hard recently” so you get take away anyway. This is an example of bootleg reinforcement. To avoid this make sure you set manageable targets and consider giving control of the reinforcement to a trusted person.

PEOPLE WHO INSPIRE US

This month we are celebrating the career of Susan M. Schneider. Schneider is well known for her book ‘The science of consequences’, which you can buy on [Amazon](https://www.amazon.co.uk/dp/0190201310). This book discusses genetics and consequence and how they impact evolution and behaviour. In her early career she became a friend of B. F. Skinner and he encouraged her to explore psychology. She studied at Brown University and University of Kansas where she initially studied engineering. She has held positions at St. Olaf College, Auburn University and Florida International University.

PRODUCTS

This months [wish list](#) includes a variety of products that support writing. Including grips to assist with developing an appropriate pincher grip, to toys that make writing fun and exciting activity.

Next month we’re looking at *Active Support* so be sure to subscribe so you receive the next exciting edition.

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