Conference

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What went on at NEC?
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From your editor

To mark the 40th birthday of BATOD we decided to undertake a joint conference with the University of Manchester – a further reason being to mark Wendy McCracken’s career in deaf education. This was a major undertaking and, with the administrative support of the Ear Foundation, a very successful two-day conference took place in March.

We were delighted to have six keynote speakers of international repute and over thirty workshops in addition to poster presentations. Taking together all the contributors with the exhibitors and delegates there were over 250 people in the Manchester Conference Centre for a stimulating and enjoyable two days.

As usual the May magazine is the conference edition of the Association magazine and the large numbers of contributors has led to a bumper edition which will bring to members unable to attend the conference the huge range of information and food for thought which delegates enjoyed.

Two Manchester students, one currently on the course, have given an overview of the conference from their points of view which, combined with articles, in addition to the keynotes, covering topics as diverse as access to exams for BSL users, use of cochlear implants with radio aids, deaf identity and speech in noise, we hope gives a flavour of the vibrancy and stimulating content of this event.

Many of the PowerPoint presentations associated with the articles can be found on the BATOD website and this entire magazine will be available to members on our website shortly after publication as will all editions in future.

The conference was a great success, as the delegate evaluations underlined, and we look forward to building on this in the future.

Forthcoming editions:
September  Acoustics and technology
November  Specialist provision
January 2018  Language development
March  Family support
May  Conference edition – Evidence, evidence, evidence

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Cover: A selection of photographs from the Conference by Robert Egan. The background image of the pendulum is by David Evans.
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It was a privilege to introduce BATOD’s joint Conference with Manchester University last May. From the outset, I invited delegates to use the opportunity to kindle their thoughts, to be inspired and to enlighten their understanding. I encouraged everyone to be curious, to challenge their thinking and practice and to be reflective by sharing learning and connecting with others during the breaks.

A politician once said his three priorities were ‘Education, Education, Education’. We are all leaders in deaf education and our priorities should be Evidence, Evidence, Evidence. Another moment captured in the Parliamentary record is Winston Churchill’s poetic eulogy for his predecessor in 1940. It includes his perspective that we are guided by our conscience and personal integrity, rather than past glories.

‘History with its flickering lamp stumbles along the trail of the past, trying to reconstruct its scenes, to revive its echoes, and kindle with pale gleams the passion of former days. What is the worth of all this? The only guide to a man is his conscience; the only shield to his memory is the rectitude and sincerity of his actions.’

Looking back at the history of deaf education some have the sense that we stumbled along trails responding to testing problems in the light of a flickering lamp! There will be different views on what constituted the informed highs and ill-founded lows, the unproven approaches, the leaps forward and glories of the past. Just over 40 years ago, in our first President’s address, Con Powell mentioned the need to look at the results of ‘the oral approach’ and ‘manual or manually assisted methods’ but warned that ‘we must beware of assuming that what is true for some, is necessarily true for all.’

It is incredible to think that I am now over half way through my tenure as President of BATOD. Knowing our heritage is important, I am proud that BATOD has supported Sue Gregory’s work and leading role in the History of Deaf Education area of our website. It is a developing resource which gives an account of many important developments, changes debates and discussions.

Within the BATOD conference Dr Connie Mayer shared her perspectives from the past with the theme ‘Myths, Mantras and Misunderstandings’. It is important to acknowledge the professional debates along the way, but we need sound knowledge and evidence of best teaching practice.

I think looking back at history also helps us to see that we can find hope in challenging times. Even the cross-party Parliamentary Public Accounts Committee criticises the budget situation in their recent report by saying, ‘funding per pupil is reducing in real terms’. Education services face perplexing budget challenges and are hard pressed on every side, but hopefully not despairingly crushed yet!

Along with contentious announcements from the DfE that they regard funding to be at record levels, Ministers have actively discussed school improvement:

The Rt Hon Nick Gibb MP – Minister of State for School Standards – said that the key to improving schools is ‘ensuring teachers of the future are equipped with an up-to-date understanding of the latest research and a desire to use evidence to inform their teaching practice.’ (Speech to Buckingham University PGCE students, 16 February 2017)

The Rt Hon Justine Greening MP – Secretary of State for Education – said, ‘I believe that professional development and school improvement are one and the same thing.’ (Speech to the Association of School and College Leaders, 10 May 2017)

We do need a passionate workforce that identifies need, plans for this, intervenes and measures its effectiveness. We want high-quality teaching to be a child or young person’s first experience in their learning, rather than repeated challenge and failure.

The second International Conference on Teaching Deaf Learners was held in Amsterdam from March 22 – 24, 2017. One of the messages of the conference was that support for listening and learning in mainstream classrooms may stop too early and if so, we should be prepared that the gap between primary, secondary and post-16 education may widen when complex language skills are required for literacy and cognitive activities.

Dr Ruth Swanwick, recently appointed Professor of Deaf Education at the University of Leeds, spoke at our conference and at the Teaching Deaf Learners event. She encouraged practitioners to make simple changes in their interactions and dialogue with learners and to analyse in more depth how language use in the classroom supports learning. We need a ‘continued dialogue about plural and diverse language experience and use that includes sign, spoken, and written modalities and all the multiplicities therein’ (Swanwick, 2017).

The workforce needs a wider awareness of strategies that are effective in supporting deaf leaners that is underpinned by specialist teaching advice from ToDs with the Mandatory Qualification. There is a Greek word that is fixed in my mind: ἀνυπόκριτος (anupokritos). It is often translated as sincere and its literal meaning is ‘without hypocrisy’. So, although we may see through a glass, darkly, let us be guided by evidence and cling to what is good practice.
One of the biggest challenges for families as well as Teachers of the Deaf is the challenge of developing pragmatic language skills that are age appropriate and commensurate with age-matched or cognitively-matched peers. The goal for children who are deaf is that they develop language and communication skills commensurate with their cognitive potential. Significant successes are apparent when documenting language skills of children who have been early-identified as a result of Early Hearing Detection and Intervention (EHI) programs. Many of these children have developed good expressive vocabulary skills and receptive syntax comprehension, as well as intelligible articulation skills.

However, early-identified children, even under optimal situations, have often demonstrated delayed expressive syntax as measured by the length of their utterances, and delayed pragmatic language skills. Goberis, et al. (2009) found that children who are deaf between the ages of four and seven years, had delayed pragmatic language skills when compared to children with normal hearing. Even at the age of seven, there were pragmatic language skills present in typically developing four year olds that had still not been developed completely by the majority (75%) of children who are deaf.

Fortunately, these pragmatic language skills are teachable and both parents and teachers can play significant roles in facilitating development of these skills as early as children with normal hearing. For the children identified by the universal newborn hearing screening (UNHS), it is extremely important to begin to develop these pragmatic language skills at earlier ages than school-age, starting at two to five years of age. The skills that began to develop in typical development between 2.5 and 3.5 years of age first with one to three word utterances and then with complex sentences are: 1) expressing personal needs, 2) requesting help, 3) describing an object wanted, 4) making polite requests, 5) using language to make choices, 6) changing the style of commands and requests, 7) giving directions to make something, 8) identifying feelings, 9) using language to complain, 10) using questions for curiosity, 11) requesting clarification and 12) using questions to request information.

The Pragmatic Checklist, described by Goberis et al. (2009) included 45 items. 43 of these items are typically mastered by children with typical development by 4.5 years of age using complex language. Of the 45 items on the pragmatic language checklist, the following items were not yet mastered with complex language by seven years of age by children who are deaf identified through UNHS: 1) provides information on request, 2) repairs incomplete sentences, 3) ends conversations, 4) interjects, 5) apologises, 6) requests clarification, 7) makes promises, 8) ask questions to problem solve, 9) asks questions to make predictions, 10) retells a story, 11) tells a 4-6 picture story in the right order, 12) creates original story, 13) explains relationships between objects-action-situations and 14) compares and contrasts. Mastery was defined as 75% of children in their age group demonstrating the skill using complex language. Most of the children who were deaf were able to demonstrate the pragmatic strategy using one to three word utterances. However, they were unable to express the pragmatic strategy using complex language.

Therefore, if we are to promote normal language development, it is important to begin teaching parents about strategies that can promote age-appropriate development in the toddler period. Though educators of primary and secondary children who are deaf have developed many strategies to develop pragmatic language skills, the strategies have been predominantly used to decrease delays. Since we now are able to identify children early and it is now possible to begin to provide them with access to language and communication at the ages when skills are developed in typical language development. We now have the opportunity to develop teaching strategies that could prevent the pragmatic language delays as long as they are taught in the early years and incorporate parents and families in intentionally teaching children the vocabulary, syntax, and the situations in which they are needed.

When thinking about pragmatic language development and developing strategies for children who are deaf, it is helpful to know about the initial development of pragmatic language skills and the end goals for transition into adult life. When children transition to adult life, they will need receptive language skills that enable them to listen effectively, to understand complaints and needs of customers on the job, to understand suggestions and questions of peers and to understand directions given by police officers, judges, doctors, news broadcasters, plumbers and electricians. They will need to use language appropriate for peers and be able to express themselves clearly: by using words/language that don’t alienate peers, words/language appropriate for an interview.
demonstrating the ability to use inoffensive language when expressing political views, and the ability to use language so that a doctor can understand symptoms. They will need to alter language so that they can be understood by a police officer when making a complaint, be understood by a banker when making a loan application and be understood by peers when communicating with them about a variety of topics and issues. In order to get a job, adults need to use language appropriate for an employment interview and when conversing with a supervisor, with peers when expressing a point of view, or when engaging in informal discussion of political views. As a parent, they may need to use gestures that enhance a child’s understanding of how to perform a household task.

Children between three and five years of age begin learning how to provide others with the information that they need to understand a situation that their conversational partner has not witnessed. This ability becomes especially important when children need to tell adults about something that has occurred, including teachers and parents, when they wish to report an emergency, an accident or something which requires adult intervention. This ability to provide information which allows another to understand the situation requires that the child understand what the other person knows, doesn’t know and what they need to know in order to understand.

Ability is needed to use language for social situations such as emergencies, to function independently for citizenship responsibilities, such as voting, sitting on a jury, or expressing oneself to a police officer or in court. Children transitioning to adults will need to use language appropriate for specific social situations: when reporting a fire, when soliciting funds for a charity, when conversing socially, when expressing views to an elected official and when giving testimony in court. As adults they will have to identify main ideas in messages: be able to recognize commitments, promises, threats and commands, main ideas in political speeches, main ideas in health related news, be able to identify critical issues in trial testimony and express main ideas in a contract agreement.

Children begin to understand what the difference between telling a lie and telling the truth is when they are three to five years of age. But the ability to distinguish truth from falsehood is a skill that will be needed throughout their lives. As they grow, they will need to be able to determine when peers are telling the truth or when they are attempting to fool them. In social situations, children who are unable to make these distinctions may find themselves the objects of mean jokes and tricks, or may become victims if children attempt to convince them to do something that is wrong. When our children transition to adults will they be able to distinguish fact from fiction: about job opportunities, about complaints, in advertisements, with regard to opinions about effective illness treatment, facts and opinion in newscasts and facts and opinion in testimony, be able to distinguish between informative and persuasive messages In a job interview, when subjected to propaganda, when subjected to persuasive messages by attorneys, in sales presentations and about non-prescription drugs.

As adults, they will need to recognize when another does not understand the message. Adults need to understand positions on a public issue, directions for product use such as taking medication, or how to put something together. Adults and children need to know when someone doesn’t understand his/her requests and they need to be able to restate or rephrase to provide sufficient information to the conversational partner. They will need to know when someone doesn’t understand their instructions and be able to express ideas clearly and concisely: for relevant information about performance, to describe a crime or accident, to be able to explain citizens’ rights to another, or why something has malfunctioned, or an unfamiliar task to a child, or their values to their child or friend.

They will need to be able to express or defend with
evidence their point of view, in a political discussion, with a supervisor, to defend innocence in court, to defend their faith or religion and their feelings in a family discussion. Ability to function independently as adults will involve the ability to organize (order) messages so others can understand them such as when making a suggestion to the supervisor, when explaining a political view. They will need to have the ability to use cause-effect when giving an accident report, and have the ability to use chronological order when explaining complaints to elected officials or how to prevent accidents using a cause-effect order with their child.

As children, even as young as three to five years old, they will begin to have opinions and will need to be able to express them to their parents and teachers instead of crying or screaming. They need to begin to learn how to teach others a game or give instructions to make something. As adults, for independent living, they will require the ability to ask questions to obtain information: about correct performance, about political views, about credit ratings, about laws and regulations, about a politician’s viewpoint. As adults they will need the ability to give concise and accurate information: about product use, about improving performance, or in procedures necessary to vote or file a tax return. When they become parents or if they wish to become a teacher, they will need the ability to teach a child to play a game or teach a child what to do in case of fire.

Summarizing information requires an individual to be able to determine the most important pieces of information. Throughout their schooling, children will need to listen to lectures and identify the main ideas. They will need to be able to take notes in classes, which require the child to know what is most important. They will need to write summaries of things they read or movies they see. They will learn to identify main ideas by telling parents about what has happened at school or by telling teachers stories about what happened on the playground.

As adults, they will need to be able to summarize messages: about positions of political candidates, arguments for and against a controversial issue, laws and regulations pertaining to some action, a public service message about auto safety or a telephone conversation for other family members.

Functioning independently will also require the ability to describe another’s viewpoint: for example, a supervisor who disagrees with job performance, or a friend who disagrees about public issues, a jury member who disagrees about information presented, or the viewpoint of a spouse who disagrees on a major decision. As they progress in school, they will need to be able to describe differences in opinion found in things they have read, or by classmates. As adults, they will need to be able to describe differences in opinion between co-workers, with customers about product performance, with legislators about proposed legislation, with other jurors, between a spouse about child rearing, with a doctor regarding health care, or to express feelings to others: to a job supervisor, to a co-worker. They will need to be able to express anger about a situation, positive reactions to a situation, a remark, or a movie, and to express feelings of disapproval or feelings of dissatisfaction to a store employee, or to perform social rituals: such as introducing a speaker, introducing oneself, greeting customers, making small talk or introducing a motion at a public meeting.

It is helpful for parents and family members to understand the full continuum of the language required for the development of social pragmatics from being a toddler, for three to five year olds, for primary and secondary students, and for functioning in adult life. Only by understanding how pragmatic language skills become more complex with age can we begin to prepare our children who are deaf for independent living.

Christine Yoshinaga-Itano is Research Professor at the Institute of Cognitive Science at the University of Colorado.

Reference
In times of austerity, funding for most services is reduced as local and national government seek to limit spending and contain budgets. In terms of children's services, this inevitably means reductions in local authority and local NHS services. In recent times many localities have therefore seen reductions in youth clubs, youth services, behaviour support teams, looked after children's services and youth offending services. As managers retrench back to core business, there is also a reduction in projects that are multi-agency funded. Similarly, child mental health services within the NHS are relentlessly challenged to make ever deepening cost improvement savings and funding has been withdrawn from multi-agency projects, preventive work and looked after children's services. As managers seek to protect budgets, higher thresholds for entering services are created. Many local transformation plans across the country are creating locality services in schools, which, whilst good, are very variable in different places and create a new 'seam' between services across care pathways. As all types of service provision are facing similar challenges it is beholden on us to continue to work together to find ways through these challenges.

As gaps in service provision appear in multiple places, deaf children face additional challenges accessing support. In some parts of the country there have been reductions in sensory support team numbers. Many early intervention services have set higher entry criteria. Similarly, funding for specialist school placements is limited, and the support available for deaf children in mainstream provision is often limited and shared. Training provision for mainstream teachers is also sparse.

One of the greatest challenges in relation to this emerging picture is that at the very time when austerity creates this reduced service provision, it is also busy creating higher mental health needs. The number of children with self-harm and eating disorders in the general population is relentlessly going up, and a study published in 2015 that surveyed deaf children up and down the country found that in a community sample there were much higher rates of mental health problems in deaf children compared to hearing children, and there seemed to be a particular spike for emotional problems in teenage deaf girls (Roberts et al, 2015).

So what is it reasonable to refer to child mental health services? The first thing to say is all deaf children have a right to access child mental health services just as any other child does. Deaf children and their families can often have difficult experiences in NHS services, and may need advocacy support from Teachers of the Deaf.
to enable them to receive appropriate provision. Many Teachers of the Deaf ask which children they should be referring to child and adolescent mental health services. The simple answer is that for any emotional or psychological condition where there is a treatment recognised by the National Institute for Clinical Excellence (NICE) then child mental health services will have been commissioned to provide it. Most services now have clear ‘care pathways’ for NICE guideline approved treatments in child mental health. So what does this include? This includes children with clinical depression, psychosis and ADHD. Anxiety disorders that can be treated include obsessive compulsive disorders, serious phobias, generalised anxiety disorder (where a child is anxious in almost all situations), serious social anxiety disorder of childhood (where a child is unable to go to school because of fears) and panic attacks.

One of the difficulties is where parents or professionals are not sure whether a child’s sadness is a normal part of childhood/adolescence or whether it represents clinical depression. It is indeed true that many people have ups and downs in life and may frequently feel sad or upset about things. Clearly someone who does not want to go to school because they would rather be playing football or watching television is not usually depressed. However, if someone has been low in mood for several weeks or months and has lost all interest in their hobbies and activities, is struggling to have fun in any setting and has reduced energy levels then this is probably a depressive illness. One of the reasons there are ‘consultation services’ is so that teachers and other professionals can seek advice about what kind of support a young person needs. Most schools now have some kind of links with child and adolescent mental health services including wellbeing workers or a single point of access where such advice can be received. The national suggested guidelines are currently that single point of access services should be set up in every part of the country.

For children and young people who are deaf then there is a national deaf child mental health service (NDCAMHS). Any professional working with a child (for example a Teacher of the Deaf, special educational needs co-ordinator, a language therapist etc.) can make a referral to NDCAMHS. NDCAMHS is specifically there to help deaf children and their families when they have child mental health problems that local services are struggling to support with. Whilst local (mainstream) child mental health services should be the first port of call usually, NDCAMHS is a specialist back up service. This service will often work with other professionals and with local CAMHS. There is no additional funding requirement for a referral to NDCAMHS because this is an NHS England funded service. There are ten centres – in south London, Taunton, Maidstone, Cambridge, Oxford, Nottingham, Dudley, Manchester, York and Newcastle. If in doubt contact us and ask for advice.

The four main numbers for this service are as follows:
South West – Taunton 01823 368525
ndcamhstaunton@sompar.nhs.uk
South East – London 020 3513 6860/5802
ndcamhs@swlstg-tr.nhs.uk
The Midlands – Dudley/Walsall 01922 608822
deafcamhs@dwmh.nhs.net
The North – York 01904 294231
NDCAMHSNorth.lypft@nhs.net

Another key point is that all deaf children or young people who have significant psychological or emotional problems or illnesses will need support from those people around them including parents, teachers, pastoral care leads, school nurses, educational psychologists, school staff and so on (the list is endless). The vast majority of children will still be going to school and support for these problems is not necessarily always about ‘therapy’. It is mostly about addressing the causes of stress and promoting coping. In this way day to day interventions such as improving communication, reducing isolation, establishing supportive peer group networks with other deaf children, supporting learning, stopping bullying, engaging them in activities they enjoy, and just being friendly and checking regularly how young people are, can make a huge difference. In this way supporting children and young people is Everybody’s Business.

Professor Barry Wright is Clinical Lead, National Deaf CAMHS (York base).
In their ground-breaking 1995 book Meaningful Differences in the Everyday Experiences of Young American Children, Betty Hart and Todd Risley relayed findings from their longitudinal study on language acquisition suggesting that children from affluent environments might hear 30 million more words by their fourth birthdays than children from low-income environments. This gap, known as the ‘achievement gap’, predicts lower scores on tests of intelligence, vocabulary, information processing, and later success in school (e.g. Fernald, Marchman, Weisleider, 2013, Hoff, 2013).

Children with hearing loss have historically had similar achievement gaps in language and cognition. Despite major advances in assistive devices such as digital hearing aids and cochlear implants, children with severe to profound hearing loss vary widely in their speech, language, and cognitive outcomes, with some children experiencing delays into adulthood, as compared to their typically developing peers (e.g. Geers & Sedey, 2011; Kronenberger, Pisoni, Henning & Colson, 2013).

Researchers and scholars in child development have come up with great factors such as grit and growth mindset to tackle the achievement gap. Concepts such as these suggest that growing up is hard work for both children and parents, particularly those who have a hearing impairment. However, there is a growing body of research that suggests children learn best in playful environments. In this article I will focus on the importance of play in the early development of children with hearing impairment, and how playing music in particular might serve in developing the fundamental skills necessary for optimizing speech, language, and cognitive outcomes.

Listening to Music with Assistive Devices
Before discussing music interventions for children with hearing loss, it is important to understand how assistive listening devices affect music perception. Hearing aids and cochlear implants do not restore ‘normal’ hearing. Digital hearing aids allow for some control of things like the ratio of sound to noise in the environment, but issues with frequency and dynamic range, as well as reduced frequency selectivity (i.e. did I just hear a C or a C#?) still plague music listeners (Chasin & Russo, 2004).

Cochlear implants are auditory prostheses designed to improve speech and spoken language skills in listeners with severe to profound hearing loss. They were not designed to transmit cues to frequency (what we hear as low/high pitch) and timbre (what we hear as sound quality or instrumentation), both important features of music (Bergeson & Holt, in press; Moore & Carlyon, 2008). Ultimately, people who listen to music via a cochlear implant have to work harder than people without hearing loss to perceive and understand music.

Music Perception and Production in Children with and without Hearing Loss
Young children with typical hearing experience music as early as in the womb, placing children with congenital hearing loss at a very early disadvantage. Fetuses can hear low-frequency sounds that might sound like hummed speech or melodic patterns, and they can use this information to learn songs that their caregivers play for them during the last trimester of pregnancy.

Caregivers typically provide young babies with musical speech, playsongs, and lullabies during their first months of life. Mothers’ speech to babies is often more song-like, with higher pitch, increased pitch range, shorter utterances, longer pauses, and much more repetition than their speech to older children and other adults. Mothers’ songs to babies are similarly exaggerated. Maternal speech prosody is very similar to infants with profound hearing loss who use cochlear implants, and it is tailored to the infants’ hearing experience rather than their chronological age (Bergeson, Miller, & McCune, 2006). Moreover, infants with and without hearing loss are mesmerized by infant-directed speech and singing.

What do we know about more formal music development in children with and without hearing loss? Skills related to pitch – namely pitch discrimination (is one note higher or lower than another?), perception and production of melodic contour (whether a series of pitches moves upward or downward, or stays level) and perception and production of melodies – are generally poorer in children with hearing loss who use hearing aids or cochlear implants, although they can often complete the tasks above chance performance. A portion of the poorer performance can be explained by cognitive factors. For example, children with cochlear implants can discriminate two tones differing by one semitone (the difference between a white and black key on a piano keyboard), but only in very
serious learning. But as Mr. Rogers once stated, "Play is not 'relief from serious learning,' it is learning." (Fred Rogers had a children's television show in the US called Mr. Rogers' Neighborhood). Play is fun and motivating, and can encourage mental representations and perspective-taking. When adults guide the play, they can take the child from lower levels of independent development to reach their greatest potential. A famous child psychologist, Lev Vygotsky, suggested that adults do this by scaffolding, or guiding children through difficult challenges by giving clues and information that will help them reach new levels of development. This kind of guidance is best received by the child in the context of a playful environment.

When we play music, we usually do this in a social context. This could be parents singing with their babies or young children learning music in a group. Music training in playful, interactive social contexts can be associated with successful outcomes in the four main areas that follow.

Music, Play and Speech Perception
Nina Krauss and her colleagues at Northwestern University have conducted several research studies that show that music training is associated with better performance on skills related to speech perception. For example, young adults with better rhythm discrimination also have better sentence-in-noise perception, and children who receive musical training have faster and more robust brain responses to speech sounds than children enrolled in music appreciation class. The key to these studies is likely to be that paying attention to sounds in music (eg ‘let’s perform this phrase a little louder’ and ‘the rhythm in this measure is different than the rhythm in this measure’ translates to paying attention to sounds in speech (eg ‘this is a /t/, not a /d/’). It is highly likely that these types of skills could generalize to children with hearing loss.

Music, Play and Language Development
Young children's earliest experience with music is caregivers' musical speech and singing. Babies naturally pay attention to infant-directed speech and singing, which is highly beneficial for language development because this register of speech and singing just so happens to highlight linguistic features such as vowels, target words and phrases. For example, mothers of babies with and without hearing loss stretch out the space between vowels to make them more distinct (Wieland, Burnham, Kondaurova, Bergeson, & Dilley, 2012). Infant-directed speech has also been shown to influence infants' language processing skills, which then helps along language development (Weisleder & Fernald, 2013). Children’s
songs similarly highlight target words with melodic and rhythmic phrasing, and make use of repetition (Twinkle, Twinkle; Frère Jacques, etc.) while keeping the musical and linguistic syntax simple enough to focus on and learn the key words and phrases.

**Music, Play and Executive Function**

Executive function involves the ability to control your thinking, behavior, and emotions. These skills are important from a very early age to prepare young children for structured classroom environments. Executive skills that involve cognition include working memory, or holding information in memory while performing other tasks, and planning, the ability to create the steps necessary to reach a goal. In music, remembering the words, tunes, and rhythms is working memory. Anticipating words, tunes, rhythms, such as anticipating two hand claps rather than singing the ‘B’ and ‘I’ in the song ‘Bingo’ is a form of planning.

Executive skills that involve behavior and emotions include inhibition, the ability to resist the urge to say or do something, and flexibility, the ability to revise plans in the face of new information or obstacles. When singing with a group, children must stick to the words and tunes or the songs will not make any sense, which involves inhibition. Children must also think flexibly in order to understand that the same tune can be sung high or low and fast or slow.

**Music, Play and Social Cognition**

Social cognition involves our understanding of intentions, emotions, and beliefs. We construct this type of knowledge through interactions with others, such as in a music class! Previous studies have shown that active musical class leads to better sociability in infants (Gerry, Unrau & Trainor, 2012) and that interpersonal synchrony (such as clapping or dancing together) is related to more prosocial behavior in infants (Cirelli et al, 2014).

**Let’s Play Music**

Music can be a part of the lives of children with hearing loss who use hearing aids and cochlear implants despite deficits in perception and production compared to their hearing peers. Keep in mind that children with hearing loss do participate in and enjoy music, and that ‘real’ music is often not represented in laboratory tasks. Because it is fun and because it naturally incorporates so many facets of development (auditory perception, visual perception, motor skills, reading notation, etc.), playing music should be a component of intervention for children with hearing loss. In sum, playing music has real potential in helping to close the achievement gap for children with hearing loss.

Tonya Bergeson-Dana, PhD, is assistant professor at Butler University and volunteer associate professor at Indiana University School of Medicine, Indianapolis.
In an era when hearing technologies allow the vast majority of deaf children to meaningfully access spoken language, the opportunities for them to achieve age appropriate literacy outcomes have never been greater. Yet the field still appears to be mired in the debates and discussions of the past – the myths, mantras and misunderstandings that have driven discourse and practice for the best part of 100 years. In an attempt to move the conversation forward in optimising outcomes in the context of 2017, I will focus on three areas that have continued to generate debate with regard to literacy development in deaf children.

Language, Literacy and Modality or The Great Signing Debate
This is a debate that seems to be as old as the field itself, and is certainly one that I have spent a great deal of time thinking and writing about (Mayer & Wells, 1996; Mayer 2007; Mayer, 2009; Mayer & Leigh, 2010; Mayer, 2015). In my view, at least with respect to learning to read and to write, this discussion can be distilled into a simple question – is the use of signed language supportive of literacy development?

In thinking about this question, it would be important to point out the fundamental and critical role that language plays in literacy learning for all students. It is well established that children who have a strong foundation in the language of the text they are learning to read and write achieve the strongest literacy outcomes. Put plainly, to read and write English, you need a language foundation in English.

This also holds true for bilingual learners. To learn to read and write in a second language (eg English), a threshold level of proficiency in the second language must be achieved (Eskey, 2005). In other words, even when children have a strong foundation in their first language (eg French), it cannot stand in for English, if the goal is to learn to read and write English. While the first language may be supportive in this process, a level of communicative competence in the second language is required. British Sign Language (BSL) would be no different in this regard. It cannot stand in for English in the process of teaching deaf children to read and write, and there is no theoretical basis or research evidence to suggest that it does. BSL and English are two distinct languages and moving from one to the other is an exercise in translation, not transcription.

However, this does not mean that there is no role for signed communication in the language and literacy development of deaf children. For any child to develop competence in a language, four conditions need to be in place: (i) exposure in quality and quantity, (ii) to accessible input, (iii) while engaged in meaningful activity, (iv) with capable users of the language (Mayer, 2007). With respect to these conditions, the historic challenge for deaf children has been that they often have not had ready and easy access to spoken English via audition alone. In the context of 2017, this has shifted so that the majority of deaf children do have meaningful access to spoken English via hearing technologies, and as a consequence are developing the necessary proficiency to learn to read and write it. Nevertheless, there continue to be some students who cannot access English via their ears alone, and need visual supports for the auditory input.

It is common in our field to refer to English as a spoken/auditory language and BSL as a visual/gestural one. But these characterizations create a false dichotomy. While undoubtedly English is a spoken language, it also has visual-gestural aspects and is not conveyed via audition alone, even for hearing learners.

<table>
<thead>
<tr>
<th>Auditory</th>
<th>English</th>
<th>Visual</th>
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<tbody>
<tr>
<td>Spoken</td>
<td></td>
<td>Gestures, Facial Expression</td>
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<tr>
<td></td>
<td><strong>Auditory + Visual Language</strong></td>
<td>Speechreading, Cueing</td>
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<td>Fingerspelling, Signing</td>
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<td>V</td>
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<tr>
<td>BSL</td>
<td><strong>Visual Language</strong></td>
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<td>Gestures, Facial Expression</td>
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<td></td>
<td>Fingerspelling, Signing</td>
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</table>
In contrast, BSL is a language that is only accessed visually. The framework below illustrates this distinction.

For deaf children who need it, it is possible to make English accessible by exploiting the range of available visual avenues in combination with the auditory input provided via hearing technologies. The extent to which these visual-gestural avenues are relied upon depends on the needs of the individual learner. This is where signed communication can play a role for some children (eg pre-implant, late identified) in supporting the development of the English needed for learning to read and write.

In summing up, several points are worth emphasizing:

- The development of spoken language can take a ‘piggy-back ride on signed language’ (Yoshinaga-Ito, 2006) only when the signed communication is in English.
- Signed language when accompanied by spoken language does not interfere with the development of spoken language. It is not the presence of sign, but the absence of auditory input in English that is the issue.
- The communication needs of deaf children can change over time (eg less reliance on signed communication post-implant).
- BSL and other natural signed languages are not supportive of developing the language that underpins literacy development in English.

**Literacy Outcomes or Shifting Expectations**

For 100 years we have been reporting that little progress has been made in improving reading and writing outcomes for deaf students, and that the literacy performance of deaf students has been consistently below that of their hearing peers (Allen, 1986; Conrad, 1979; King & Quigley, 1985; Pintner & Patterson, 1916; Quigley & Kretschmer, 1982; Traxler, 2000). In 2012, Qi & Mitchell reported that gaps between deaf and hearing students have not been closing over the last three decades, and questions have been raised as to the extent to which children with cochlear implants are closing the achievement gap (Knoors & Marschark, 2014).

However, I would suggest that it is time we reframe this discussion with respect to literacy outcomes. The landscape in this regard has changed substantially and significantly, and in ways that are unprecedented in the history of the field. Many more children are achieving reading and writing outcomes commensurate with their hearing counterparts (eg Antia et al. 2009; Archbold et al. 2008), and in a recent review of 19 studies of literacy outcomes in students with cochlear implants, it was found that the majority reported mean reading scores in the average range (Mayer & Trezek, 2016). Doing ‘less well’ also looks fundamentally different that it did in the past. Consider the two writing samples below – both from nine-year-old deaf children and regarded as ‘below age level’. Note that in the second example, the student does not demonstrate the use of the non-standard English syntax typical of deaf pupils in the past, but instead evidences strategies typical of hearing pupils (eg invented spelling), reflecting his increased access to English via his implant.

I go to outside. I go waiting soon start school bus. People line door walked in the school bus and sit down. The bus driver traveled far to the zoo. Wait soon then stop. (Mayer, 1994)

My name is Harry and when I went to the bach and my bdad hung me upsid bane and I lost my in plandt so I did not hear. when im go swiming I ware ear bags so I can hir in the pool. I have somme colus I neely war them evry day. (Mayer et al. 2016)

This is not to suggest that the job is done. There is still considerable variability in outcomes with a relatively greater number of deaf students in the low average range, and some suggestions that outcomes may decline over time (Harris, 2016). This remains an ‘at risk’ population, and we must always be mindful of the heterogeneity of the group. While it will never be the case that all deaf children will read and write at age-appropriate levels (nor would this be realistic as not all hearing children attain these outcomes), expectations for deaf students have shifted. The new benchmark is age-appropriate literacy performance as measured by the same assessments of literacy that are used with hearing students. This is a goal that is reasonable and within reach for many deaf students, and we need to move on from contextualizing success in terms of the attainments of the past.

**Teaching Reading and Writing or the Key to Optimising Outcomes**

There has been a history in the field of using approaches and programs for teaching reading and writing that have been designed specifically for deaf students. These reflect two different positions on literacy education for this population. The first is a remedial or mechanistic approach in which teaching reading and writing is concomitant with teaching the language itself. These approaches go as far back as the Fitzgerald Key (1926) and over time have included programs such as the Appletree Program (1987) and Reading Milestones (1991). More recently the use of Colourful Semantics (1997) has become popular. While there can be a role for these sorts of structured programs for some students, I would argue that they are not the approaches needed for the majority – and it remains an open question as to how successful these programs are in terms of teaching the language that is needed to support literacy.

The second approach is grounded in a bilingual model of literacy education – of using a natural signed language such as BSL or ASL to teach written English. Some examples in the North American context are the
Fairview Learning Program (2002) and the ASL-phab (2003). Given that the great majority of deaf children do not acquire a natural signed language as their first language, and are not educated in that language (ie only 2% in the UK (of all deaf children)) (CRIDE, 2015), there seems to be a limited need for these programs. In addition, as noted above, questions remain as to the efficacy of using BSL as the route to English literacy, as it does not obviate the need for developing competence in English even in a bilingual context.

In contrast, the pedagogical reality of 2017 is that the vast majority of deaf students are educated in mainstream settings. They are taught using the same curricula as the hearing students in the class, and are being held accountable for the same outcomes. Teachers of the Deaf must have knowledge of these programs and the expertise to differentiate instruction as needed. With respect to teaching reading and writing, this includes systematic instruction and adequate support to develop both code-related skills (eg phonological awareness, alphabetic principle), and a focus on enhancing language proficiency (eg low frequency vocabulary, the complex syntax of text).

To develop the evidence base with respect to most effective practice, Teachers of the Deaf need to be involved in intervention studies, over time, that include the full range of students we teach. This is an area of research that is sorely lacking in our field, but represents an important and necessary pedagogical step forward.

Final Thoughts

The opportunities for deaf children to learn to read and write as well as their hearing age-mates have never been better. As a Teacher of the Deaf for forty years, I see this as a cause for celebration. The challenge – and opportunity – in moving forward is to respond flexibly in a new era in deaf education to optimise literacy outcomes for all of the deaf children we teach.

Connie Mayer is Professor and Academic Coordinator, Deaf and Hard-of-Hearing Teacher Education Program, in the Faculty of Education at York University, Toronto.

References:
Redcat Access Soundfield System

- Simple-to-use solutions right out of the box
- Portable and ultra-light
- Inclusive - all students naturally hear their teachers' voice clearly and audibly
- No installation and easy set up

955 Access Classroom Amplifier

- Digital FM delivers superior voice clarity without dropout or interference
- 4 speakers evenly distribute high-quality audio
- Easy and quick installation
- Flexible solution to grow with your needs
Child psychologists are in agreement that the origins of intelligence precede language development and form the basis for learning language. Thinking before language is thinking in action and learning in action is observational learning – that is, either learning by doing something or by seeing how someone else succeeds in doing something and imitating the action. There is a sound research basis about young hearing children's intellectual development before language and about observational learning. In contrast, it is difficult to find any research about observational learning and practical thinking with deaf and hard of hearing (DHH) children. This is unfortunate because, before school and throughout primary school, all children learn much from observation and through their own activities in the environment. This article offers some examples of how observational learning can be used in mathematics to develop children's problem-solving skills.

Intelligence in action and observational learning
The first theories about intelligence and the first assessments of the development of intelligence in children focus on intelligence in action. When psychologists assess babies' and toddlers' thinking, they look for evidence that these young children can solve problems, such as understanding tool use or simple cause and effect relations. For example, in an item in a scale of intelligence for babies, they are presented with an attractive object that is connected to a string. The item is out of reach and the tester attracts the baby's attention to the fact that it is connected to the string by pulling the string and provoking movements of the object. The string is then left within the baby's reach; success in this item is defined by the baby's pulling the string and retrieving the object. In another item, a desired small object is placed inside a transparent plastic container that is narrow and too long for the baby to reach into. Babies' typical reaction is to attempt to reach the object directly, through the plastic, and of course they do not succeed. The tester takes the container and turns it upside down, causing the desired object to fall out. The object is placed back into the container, which is given back to the baby. Success in this item is defined by the baby's taking the container, turning it upside down, and retrieving the desired object. In both items the tester demonstrates a step towards the solution because it is reasonable to expect that these specific situations – retrieving an object tied to a string or from inside a narrow and long container – are so new to the babies that they need support to find a solution. These items demonstrate thinking in action supported by observational learning – that is, the adults' actions create a model for the baby's actions. Research with hearing children shows that, when children learn by imitation, they do not simply mimic actions in a mindless manner. They are more likely to imitate an action if they tried to do something and did not succeed and if the adult's action was successful.

Observational learning is a powerful approach for the development of many skills. Its significance is not restricted to manual skills; it extends to problem solving and social skills. It is surprising that there is little, if any, research on the development of this form of learning with DHH babies and toddlers. If I could, I would be doing this sort of research right now; I would be trying to see whether posing practical problems to DHH babies is a good source of intellectual games for mothers to play with their children.

Mathematical thinking in action
Many young children start school with an impressive amount of mathematical knowledge in action. For example, one can give 5-year-old children some blocks and ask them to imagine that the blocks they have in front of them are sandwiches. Most will then succeed in solving a problem like ‘a boy had four sandwiches in his lunch bag; he ate one; how many does he have in his lunch bag now?’ These young children have no problem knowing that whatever answer they get with the blocks applies to sandwiches.

Most of these young children can also solve problems about multiplication even if imagination is required, but the problems can be solved in action. For example, if they are presented with a problem in which two toy dogs go into one house and they are asked to imagine that the same happened in each of three houses. The dogs are now concealed; the children are asked to take from a bowl the right number of ‘treats’ (blocks that represent treats) so that each dog can have one treat. Most 5-year-olds succeed in picking up the right number of blocks.

Both of these examples illustrate mathematical thinking in action: the children cannot calculate using number words and neither can they explain that what they did was to use blocks as symbols for the quantities. They implement actions on symbols – taking away one ‘sandwich’ and set ‘treats’ in correspondence with houses – and solve the problems.
At school start many more DHH than hearing children show difficulty with such tasks. It is quite possible that adults want them to learn to count before engaging the children in mathematical thinking tasks because they believe that the children need to learn first the language of numbers in order to think about numbers. Because learning sequences of words in a fixed order is difficult for DHH children, they learn to count more slowly than hearing children. Maybe the DHH children are being held back in the development of their mathematical thinking for no good reason. In fact, research about children's mathematical reasoning shows that development works the other way around: children first learn to think in action and this reasoning forms the basis for them to understand numbers (ie. not just learn to count). The expression 'schemas of action' was coined to refer to the type of mathematical thinking that children need to achieve in order to understand numbers and arithmetic.

Thinking in action with others
There are many occasions when children do not know how to approach a problem, but can make relatively fast progress through teaching. If a child is stuck when asked to solve the problem about getting the right number of treats for the dogs, it is simple enough for the teacher to take two treats, place them in correspondence with one house, and indicate that these treats are for the dogs inside that house. The child can then be asked to get the treats for the other dogs. This action by the teacher works as a guide for the child to recognise the relevance of the schema of one-to-many correspondence as a model of the situation: two treats in correspondence with each house will give the right number of treats.

This form of teaching, which I call guided action, is very effective with young children. We found that in the first year of school DHH children do not perform as well as hearing children in multiplication tasks like the one about the dogs and treats. We then used guided action to help the DHH children use the schema of one-to-many correspondence to solve the problem. The amount of guidance offered depended on the children's difficulty. If they didn't know how to start, we showed the two-to-one correspondence for the first house. If they made the first correspondence and stopped there, we asked them whether the dogs in the other houses were not going to get treats. The amount of teaching in this study was quite restricted – two half-hour sessions on a one-to-one basis – but the DHH children showed a huge improvement in their ability to solve multiplication and sharing problems. This improved performance was sustained after two to four weeks, when we assessed them again.

Guiding children's action to solve mathematical problems requires knowledge of what is the good model for a problem. In a comparison problem – such as 'Paul has 4 books and Penny has 6; how many more books does Penny have?' – a good model would have two sets, one for Paul and one for Penny. The children then compare the sets. Although the problem is solved by a subtraction, a demonstration with one set of 6 from which we take way 4 does not model the situation. Therefore it is crucial that the teacher knows what a good model is and guides the children's action to support their thinking. Fortunately, there is much research to support teachers in this task. The figure shows two examples of problems that can be solved in action.

A question that teachers often ask at this point is whether the teaching should be in signed or oral language. The answer is clearly: the conversation should be in the language that the children understand so that they are able to imagine the situation. The teaching itself is done through guided action, which does not require explanation from the teacher. After the child succeeds, the child should be asked to explain why the answer is correct. It is up to the child to choose which language to use in the explanation.

Terezinha Nunes is Professor of Educational Studies and a Fellow of Harris-Manchester College at the University of Oxford.

Helen Chilton
Helen Chilton will be formally submitting the work presented in her keynote presentation in a peer reviewed journal as this will form part of her PhD. An article will appear in the magazine in due course.
Positive Futures for Deaf Children: Optimising Outcomes

Jane Beadman gives an overview of the 2017 BATOD Conference at the Manchester Conference Centre

The BATOD conference 2017 celebrated both the 40th anniversary of BATOD and the career of Professor Wendy McCracken. To mark the occasion, the conference ran over two days and included a diverse range of talks from speakers from all over the world. I was on familiar territory in Manchester and at the Manchester Conference Centre, having attended the student ToD conference there only a couple of years ago and so knew we’d be in for a treat.

Nearly three hundred delegates arrived for the conference, which ensured great opportunities to network. As this was my first BATOD conference, I was particularly keen to meet ToDs and hear how services are run across the United Kingdom. The BATOD president, Stuart Whyte, opened the conference and reminded us that this was an opportunity to be reflective and to connect with others. He continued that we are all leaders in deaf education and our priorities should be education, education, education, as a well-known person had previously said.

The conference got underway with a thought-provoking keynote speech given by Christie Yoshinaga-Itano about pragmatic language development. We were shown evidence that indicated that although pragmatic language development for those with a mild hearing loss more closely matched the results of their hearing peers, those with moderate, severe and profound hearing loss had significantly lower results in this area.

Breakout sessions included a varied range of talks, making it very difficult to choose which ones to attend. Presentations included: promoting mental health and wellbeing, attainment in deaf children, early use of radio aid technology and many more.

The catering team at the Manchester Conference Centre kept our energy levels high, providing sumptuous break time pastries and cakes and a delightful hot buffet at lunchtime. Break times ensured that delegates got the opportunity to visit the array of exhibitors who had brought a range of equipment and resources for us to look at. Break times also gave delegates the chance to read the research posters and speak to the people responsible for producing them. I was fortunate enough to be able to have my own poster on gene therapy displayed next to a poster produced by Jesper Dammeyer, enabling me to find out about his experiences as an academic researcher. He has also written an article in this magazine.

Professor Kevin Munro talked about an exciting research project, using the cortical evoked responses of the brain to verify hearing aid fitting in young babies. Currently, hearing aids are programmed using results from auditory brainstem response assessments. Parents then have to wait until the baby is at least eight months old and able to complete visual reinforcement audiology to establish the benefit that their hearing aids are having. This project is looking to recruit two hundred babies nationally and has a mobile van to enable babies to be tested on their doorstep. Currently 80% of participants show evoked cortical responses to the test stimuli.

The first day closed with an enlightening keynote speech from Manchester’s own Helen Chilton. Helen explained...
how we can look at theory of mind through different lenses. She discussed cognitive, affective and interpersonal theory of mind. Helen continued to explain how in this area she is now focusing on the use of writing, to evidence theory of mind and how we can do this in our everyday practice.

The day didn’t end there, however, as BATOD members were invited to return in the evening for an amazing recital by 4ORTE, followed by a three course meal and a mojito or two!

On the second day, whilst Danny Lane from Music and the Deaf and Professor Wendy McCracken made an appearance on the BBC, Dr. Tonya Bergeson-Dana reminded us of the importance of music for all children but especially for those with hearing impairments. Tonya suggested that music could be used as intervention for speech perception, language development, executive function and social development. People who have had music training are better at attending to speech and at auditory learning. Simple tasks in a music group such as “go to the box, collect two instruments and sit back on the mat,” develop working memory, planning ahead, inhibition and flexible planning.

Dr. Terezinha Nunes focused on the development of problem solving skills through guided activities. “What does number look like in cooking, meal times and bedtime?” Terezinha reminded us to look for opportunities to develop maths skills in everyday activities.

Professor Connie Mayer was next, with the presentation “Is reading different for deaf individuals?” Connie discussed how we can optimise the opportunities for literacy learning for deaf students.

A fitting end was given by Wendy McCracken who said, “Teachers of the Deaf in the UK are the best in the world. Where you go from now is in your hands. Use a real evidence base which is rigorous.” A real evidence base supports the development of outstanding practice, enabling positive futures for deaf children and optimising outcomes.

Jane Beadman is a ToD managing a secondary resource base and peripatetic caseload in Leicestershire.
Innovations in Bridging the Gap

Joy Rosenberg explores training needs and outcomes in Educational and Clinical Audiology and Early Years

**During this presentation, the delegates reviewed recent professional survey outcomes in regards to training and explored best practice collaborative efforts in multidisciplinary working related to Educational Audiology (Ed Aud) and Early Years training. They considered the strong foundation and benefits of postgraduate professional education being cascaded into the development of multidisciplinary practice, which impacts on service and intervention well beyond the duration of the course, making powerful contributions to changing the future.**

**Survey:** The Professional Opinions Survey had an adequate response rate for indicative results from a representative sample of 1303 individuals from two broad professional areas (Health and Education) and two working levels (Heads of Services and Practitioners) with the largest percentage of responses coming from practitioners, that is Paediatric Audiologists (Paed Auds) and Teachers of the Deaf (ToDs). It explored roles and remits, training forecasts and professional views.

**Roles and remits:** Liaison roles linking health and education were reported to be undertaken by ToDs and/or Ed Auds in varying proportion which is likely to reflect the structure of local sensory services. Early support roles were reported to be offered by ToDs who primarily do not have additional specialist qualifications. Notably, the Paed Auds and ‘others’ also felt the area needed further development. Ed Auds expressed concern about the future of services linking health and education, in light of funding cuts, lack of mandatory status for Ed Auds and lack of likelihood for take-up by HoAS. Heads of Service expressed concerns about service priorities (emphasising current staffing) and funding whilst citing preference for shorter-commitment update-related training.

**Training forecasts:** Overall for Educational Audiology and Early Years training, Heads of Sensory Services (HOSS) indicated they favoured sending a team member for training via stand-alone postgraduate module or short course as compared to a full postgraduate qualification. Overall for Educational Audiology and Early Years training, practitioners who have funding are most likely to attend short courses and second most likely to attend stand-alone modules rather than full postgraduate qualifications, with more interest shown in the Early Years topics. Reasons for low/no engagement with training overall were lack of funding, and training not being identified as a current service priority, which may have been due to capacity issues or recently trained team members. Nevertheless practitioners reported very positive motivation about training options.

**Professional views:** Practitioners emphasised the need for options in health and education training, citing motivation for training but concerns over lack of funding for it. Ed Auds expressed concern about the future of services linking health and education, in light of funding cuts, lack of mandatory status for Ed Auds and lack of likelihood for take-up by HoAS. Heads of Service expressed concerns about service priorities (emphasising current staffing) and funding whilst citing preference for shorter-commitment update-related training.

**Case studies and questions:** Two recent case studies were considered where Ed Auds had influenced clinical practice to develop training that included ToDs. These involved early fit of radio aids and development of counselling concepts with parents of deaf children. Delegates were asked to consider specific options in their local areas, for ToDs to invite Paed Auds to training opportunities; as well as options for access to training on postgraduate professional courses including full qualifications and stand-alone modules. Finally they were asked to consider more broadly what can be done to ensure the future workforce and services for deaf children have the same or better opportunities going forward.

Joy Rosenberg is Principal Lecturer and Programme Leader, Mary Hare and University of Hertfordshire.

Please don’t share your BATOD membership...

Encourage your colleagues, SENCO and classroom assistants to join BATOD to enjoy the benefits of membership.

...get them to join!
Our latest paediatric portfolio

Phonak Sky™ V is the latest addition to the Phonak paediatric portfolio and is available across 5 models. With a new portfolio comes new Roger™ receivers and we would like to inform you of these changes.

To help you in your everyday situation, we have available the new Sky™ V shoes and receivers guide as hard copies through your Regional Sales Manager, alternatively, you can download a PDF from www.phonaknhs.co.uk/ProductDownloads/Upload/Sky_V_Shoes_Chart.pdf
Language and literacy are core skills that remain a strong focus in schools for all pupils and for deaf pupils they form two of the most vulnerable areas of development. However, the assessment of English listening and speaking skills undertaken in schools does not provide sufficient detail and depth of analysis to allow Teachers of the Deaf to plan for the next steps within a developmental framework; further specialist assessments are required so that next steps can be identified, appropriate intervention planned and progress evaluated. Ensuring that the results of specialist assessment inform planning for progress is vital if the purpose of assessment, that is accelerating learning, is to be fulfilled. However, too often surface difficulties dominate our interpretation of the results rather than a search for the underlying difficulties that are influencing development. As a result, intervention isn’t always clearly focused on the underlying skills that need to be addressed.

The development of spoken language is underpinned by several key factors – listening is one of those key factors. Certain aspects of language may be more affected by listening skills than others. During this workshop delegates looked at the language assessment results of a profoundly deaf pupil and explored how particular expressive language difficulties might be related to aspects of listening and attending that are not sufficiently well developed.

Watching two brief clips of video was the trigger for considering what skills are involved in listening. Participants were then led through a brief examination of the results from a range of commonly used language assessments that had been undertaken with a profoundly deaf pupil.

The assessments used were:
- Reynell Developmental Language Scales (RDLS)
- Renfrew Bus Story Test (RBST)
- Renfrew Action Picture Test (RAPT)
- Syntactic analysis using Language and Remediation Screening Procedure (LARSP) (Crystal, 1989)

Throughout these assessments, the pupil demonstrated good use of multi-clause sentences but there was evidence of weaknesses at phrase and word level.

The RDLS indicates a significant discrepancy between receptive and expressive language but closer examination reveals that the weaknesses lie at phrase and word level. Section C in the Expressive component requires:
- use of ‘_s’ as an indicator of plural nouns
- use of ‘_s’ as the verb ending for the third person singular ‘runs’
- use of the regular past tense ending ‘_ed’ (either /d/ or /t/).

The child used ‘_s’ for plurals inconsistently and not at all for the verb ending. Neither did she use the regular past tense ‘_ed’. Instead she substituted the more acoustically prominent ‘_ing’.

Section D requires all clause, phrase and word elements to be in place and so a more detailed analysis using LARSP was undertaken to identify what errors were occurring. LARSP was also used with some of the responses given during RBST and RAPT. This indicated that there were frequent omissions or substitutions in both verb and noun phrases and with word endings. These are a few examples:

<table>
<thead>
<tr>
<th>Utterance to analyse</th>
<th>Teddy giving the car to rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clause</td>
<td>S V Od Oi</td>
</tr>
<tr>
<td>Phrase</td>
<td>Determiner Noun Preposition Noun</td>
</tr>
<tr>
<td>Word</td>
<td>_ing</td>
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<tr>
<td>Any other comments</td>
<td>Omit auxiliary verb in verb phrase Omit determiner in noun phrase</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Utterance to analyse</th>
<th>The man climb the ladder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clause</td>
<td>S V O</td>
</tr>
<tr>
<td>Phrase</td>
<td>Det Noun Det Noun</td>
</tr>
<tr>
<td>Word</td>
<td></td>
</tr>
<tr>
<td>Any other comments</td>
<td>Omit verb ending and verb particle in verb phrase</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Utterance to analyse</th>
<th>The cat want eat mice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clause</td>
<td>S V O</td>
</tr>
<tr>
<td>Phrase</td>
<td>Det Noun VV</td>
</tr>
<tr>
<td>Word</td>
<td></td>
</tr>
<tr>
<td>Any other comments</td>
<td>Word level omission: ‘_s’ 3rd person singular word ending Verb phrase omission: ‘to’</td>
</tr>
</tbody>
</table>
Whilst it was acknowledged that there were other aspects of the child’s language that would need to be addressed, it was recognised that omission of auxiliary verbs and confused use of verb endings mean that tense cannot be correctly expressed and so ideas become confused. The communication of everyday events that have happened/are happening/will happen — is difficult to convey accurately and the development of literacy skills is significantly impaired. These errors were almost identical to those that occurred a year previously when RDLS was administered so they had not been effectively addressed.

The importance of trying to establish what the underlying cause might be so that effective intervention could be implemented was acknowledged. The possible link between listening skills and errors with verb endings and unstressed or contracted auxiliary verbs was explored. It was agreed that whilst assessing children’s discrimination at phoneme level is routine, using, for example, the Ling sounds or AB word lists, there is a need to assess how well children discriminate, identify and attribute meaning to phonemes within sentences and longer discourse. Deaf children need to learn to attend consistently to unstressed, fleeting, often high frequency phonemes that are syntactically critical. Whilst there are ample resources to promote early listening skills, the need for further guidance on the development of more advanced listening skills was recognised.

Finally, participants had the opportunity to view a range of assessment resources aimed at diverse listening skills.

Trish Cope is Secretary of BATOD North, a former NEC member and Education Consultant in deaf education, working for the Ewing Foundation.

References

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Our workshop at the Positive Futures for Deaf Children Conference was designed to promote discussion about the revised Quality Standards for the use of personal radio aids, written by the UK Children’s FM Working Group and published by the National Deaf Children’s Society. The revised standards state that a deaf child should be considered as a potential candidate for provision with a personal radio aid as part of their amplification package, at first hearing aid fitting. This is a change of emphasis from the first quality standards and promotes early provision of radio aids for very young children. The new quality standards have implications for deaf babies, parents and carers, and professionals. We wanted to look at the benefits and challenges and explore ways of learning from each other so that babies and families have the best opportunity to use the technology to maximum benefit.

Research shows the benefits of early identification of hearing loss and fitting of hearing aids. Babies are screened within a few days of birth and are often fitted with hearing aids within the first month of life. We know that hearing aids have limitations and that parents can become disillusioned when they start to realise that they do not restore normal hearing. A considerable amount of young children’s time is spent in less than ideal listening conditions; for example, in the car, the supermarket, toddler groups, nursery, and in the pushchair.

Working in partnership with families has become part of our professional practice since the introduction of the Newborn Hearing Screening Programme and professionals from health and education are committed to making services for families as seamless as possible. This closer multidisciplinary working and understanding of each other’s roles is an essential element of enabling services to fit radio aids as part of a baby’s initial amplification package. As currently, hearing aids are fitted by health services and radio aids by education services, cooperation around early fitting is needed, including choosing the appropriate equipment and issues around funding. This collaboration is an important factor in troubleshooting and maintaining the hearing aids and radio aids.

Our experiences
In Berkshire we introduced radio aids for use in the home environment for children aged 0-3 years and asked parents to tell us about the practical and management issues they faced. Although not all the children in our study were given radio aids at first hearing aid fitting, the equipment was for use at home prior to starting at pre-school. We found that parents were keen to learn about the equipment and reported that it was acceptable and user friendly particularly when fitted with integrated systems. Parents were also good at troubleshooting and fault-finding and generally had minimal difficulties managing and using the equipment.

The situations where parents found the equipment useful suggest that very young children could gain benefit. Situations included in the car, at parties and restaurants, and in the pushchair. Some parents commented that they had not realised that their child was unable to hear in certain situations and the radio aid highlighted this. They drew attention to improvements in wellbeing, such as their child being calmer at family gatherings and in the supermarket. They also mentioned that their children demonstrated a greater ability to take part in group activities and in family life in general.

Conference discussion
We were keen to discuss issues which may arise with fitting radio aids at first hearing aid fitting with conference delegates and there was a lively exchange of views! Particular issues were raised about funding for equipment and whether this should be from health, education or shared. Maintenance of equipment was also discussed along with practical issues related to hearing aid upgrades and the ability to continue using integrated systems with different hearing aids. There was consensus that very close multidisciplinary working would be key to ensuring optimal fitting and use of equipment particularly between education and health services.

Conclusions
We all agreed that parents are highly motivated to support their children to fulfil their potential and that radio aids can overcome some of the technical and practical challenges presented by hearing aids, particularly when listening in noisy environments or at a distance. The benefits of fitting radio aids are such that the technical and financial challenges must be addressed in order that all deaf children have the opportunity for optimal listening in different environments regardless of their age.

Cate Statham is an Educational Audiologist and Teacher of the Deaf. Hannah Cooper is a Clinical Scientist in Paediatric Audiology.
This paper, presented at the BATOD 2017 conference, envisions pedagogy for deaf education that is underpinned by a theory of learning, responsive to the language dynamics of the classroom and the diverse language and learning resources of individuals, and inclusive of all deaf children. This pedagogical approach considers learning and teaching issues in the first instance by taking a dialogical perspective that is ultimately concerned with language as the tool for learning. The use of language in the classroom to implement such an approach is then considered from a translanguaging perspective. It is argued that the two axes of dialogy and translanguaging offer a pedagogy that is (i) grounded in a robust theory of learning, (ii) sufficiently dynamic and flexible to be relevant across the different contexts for learning and (iii) sensitive to the diverse linguistic resources that deaf learners bring to the classroom.

This approach is by no means suggested as the only way to work with deaf learners but as a starting point it represents a shift away from thinking about which language, or combination of languages, supports learning, to analysing in more depth how language use in the classroom supports learning.

A Dialogic Theory of Learning

A dialogic theory of learning is grounded in the sociocultural view that we learn in the context of cultural and historical relationships brought into play through interaction. That is to say, we learn across difference, where the juxtaposition of different perspectives opens up spaces for new meanings to emerge. Dialogue in its broadest sense thus refers to the interplay of different perspectives (the view, and the counter-view) that changes what and how we know. Dialogue is usually construed as occurring between two or more people (my voice and your voice), but it can equally refer to an interchange between the self and the cultural, social voice of our environment. A dialogic theory of learning privileges the persuasive voice that provides possibilities for developing thinking skills, language, and subject knowledge through talk. This type of voice does not presuppose ready-made answers but engages learners in a collective search for meaning. This view of dialogue rests on an assumption that knowledge is neither absolute (there is no one truth) nor completely subjective (there is some shared understanding) but that it is negotiated and constructed as a result of the dialogical processes of examination, reflection, and judgement. As a pedagogical framework for deaf education a dialogic approach offers a model that is transformative, holistic and optimistic.

The role of translanguaging in dialogic teaching

To achieve classroom dialogue that (i) encourages pupil participation, (ii) scaffolds and builds learning, (iii) facilitates social interaction and (iv) responds to the diverse and dynamic language communication needs of deaf learners is a tall order. Teachers need to use language in a nuanced and sophisticated way to develop a dialogic teaching repertoire and it is proposed here that translanguaging in deaf education can facilitate this. The concept of translanguaging rests on the premise that bilinguals have one linguistic repertoire from which they select features strategically to communicate effectively. A language repertoire thus comprises a set of integrated skills across languages, that constitutes ‘one behavioral
whole’ (Gumperz, 1964, p. 140). This includes the ability to make ‘critical and creative’ choices about language use (García & Li Wei, 2014, p. 10).

Translanguaging in deaf education can be usefully considered in terms of learner-led and teacher-led practices (García & Li Wei, 2014). Firstly, it is important to be able to recognise what learners do with their bimodal and bi/multilingual language resources. Secondly, it is helpful to identify how adults can draw on their own skills to respond to learner repertoires and support learning. Teachers translanguaging when they use two languages side-by-side to compare and contrast sign and spoken/written languages and/or to model language structures. This may involve switching between sign/spoken-written language to check understanding, negotiate new meanings, and introduce new curriculum vocabulary or language structures (Holmström & Schönström, 2016). The practice of ‘chaining’ or ‘sandwiching’ is commonly used in this context where different modalities or resources are connected through a sequence of signing a concept and then fingerspelling it or pointing at a written word and then signing/saying it; for example in order to highlight equivalence (Bagga-Gupta, 2002; Humphries & MacDougall, 2000).

In any deaf education classroom teachers will be working with learners with diverse language repertoires and flexibility is the key. It may be opportune to teach in one language but invite students to contribute in their preferred language to fully engage all of the learners, or to use the students’ preferred language to contextualise or prepare a learning activity that then takes place in the target language. Even if the students’ home language is not known by the teacher and class members it is motivating for learners to be invited to share words or signs from home where they are known, for example, for the new and important curriculum vocabulary (Li Wei, 2011).

It is important here to establish the relationship between translanguaging and sign supported speech (SSS). The ‘natural’ and pedagogical uses of SSS are both features of translanguaging but are not synonymous with this concept. To equate the two would oversimplify the scale and affordances of translanguaging that amounts to more than code-switching or code-blending (Otheguy et al. 2015).

Conclusion
There are encouraging reasons to adopt a dialogic pedagogical approach in deaf education that encompasses translanguaging. This approach builds on pedagogical ideas already in development in terms of bimodal bilingual and multilingual deaf education and dialogic approaches: Dialogic teaching and translanguaging provide scope for directly teaching aspects of language such as phonics, vocabulary, and metalinguistic skills as well as strategies for embedding language learning within classroom activities.

In terms of literacy development, dialogic teaching and translanguaging provide opportunities for work on early language and shared reading in school and at home. This way of working also facilitates the transition from face-to-face communication to reading and writing and supports learners in engaging in purposeful shared and independent writing activities. With regard to the wider curriculum, a dialogic approach facilitated by translanguaging, provides opportunities for teaching the knowledge content of the curriculum as well as technical language. In particular, this approach facilitates the experience of engaging with the discursive practices of the different curriculum areas through use of argument, analysis, and problem-solving dialogue.

Combining a dialogic approach with translanguaging offers a framework for teaching and learning that a) is underpinned by a sociocultural theory of learning that emphasises participation, engagement, and sensitivity to individual learner identity and b) provides a space for the dynamic use of all the language repertoires in the learning to enable fluidity of communication and responsiveness to the identities and intentions of the learners. As with any theoretical framework for pedagogy, the test is in its execution and the generation of evidence that indicates benefits to deaf learners.

Dr Ruth Swanwick has recently been appointed Professor of Deaf Education at the University of Leeds.
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The social groups to which we belong are of central importance to our self-concept and social behavior. This is the seemingly simple but originally groundbreaking contention of social identity theory (SIT) (Tajfel & Turner, 1979). SIT puts issues of identity, emotional attachment to groups and the symbolic resources of group membership at the heart of our understanding of social and intergroup behaviour. Scholars have used SIT productively ever since to explore not only intergroup biases but also how threatened or minority social identities (for example, gender and minority ethnic identities) use various strategies to respond to threat. Few, however, have turned their attention to the dynamics of deaf social identity despite the importance of supporting identity development among deaf children and adolescents.

The issue of deaf social identity and its significance for self-concept and well-being was the focus of the research we presented at the BATOD national conference this March. The research was informed by SIT and used data from a national survey of Danish deaf adults to explore the relationship between identity, psychological well-being and other life outcomes and experiences, including the experience of discrimination. Four identity groups were constructed from a question about feelings of identification: deaf identity (signifying identification as Deaf and perception of deafness as a distinct culture), hearing identity (signifying identification with the hearing culture and perception of deafness as a disability), bicultural identity (signifying a cross-cultural identity and identification with both the hearing and Deaf cultures), and marginal identity (signifying a lack of identification with both the hearing and Deaf cultures).

The study found that identity was significant for psychological well-being. Specifically, marginal identity was associated with significantly lower levels of well-being than the other three groups. These levels signified poor psychological well-being overall. There were no significant differences between the other three identity groups, which all reported good levels of psychological well-being overall. Further to identity, the experience of feeling discriminated against was also found to be significantly and independently associated with psychological well-being. A key issue that demanded attention was this: both the deaf and marginal identity groups reported significantly higher levels of feeling discriminated against (which was predictive of lower levels of psychological well-being) yet deaf identity was associated with good levels of psychological well-being and marginal identity with poor. The interesting question this raised is what difference does identity make?

In our report of the study (Chapman & Dammeyer, 2016), we applied SIT to help elucidate the findings. Specifically, we drew on its model of how minority or threatened identities engage different strategies to achieve positive social identity in the face of threat. One of the strategies advanced is social creativity, which encompasses processes of positively representing group identity in order to achieve ‘positive distinctiveness’ (Tajfel & Turner, 1979). In terms of Deaf identity, these processes are recognizable in the accentuation of the positive uniqueness of Deaf culture and sign language. It may be surmised that positive social identity (and thereby good psychological well-being) as Deaf is attained though development of a cultural minority identity that both responds to and mitigates the adverse impact of discrimination. The findings for those with a marginal identity are in line with this account. Identifying with neither the deaf nor hearing culture, those with a marginal identity do not have a strategy to achieve positive identity.

SIT can also help explain the findings for hearing and bicultural identity, which were both associated with good levels of psychological well-being and relatively low levels of feeling discriminated against. An alternative strategy that SIT posits for threatened identity is social mobility, involving individual dissociation from the threatened group and membership of a higher-status or majority group. Positive identification as hearing (and dissociation from deaf identity) is possible for some individuals treated with hearing aid technologies, in particular cochlear implants. Identifying as bicultural may have elements of both strategies of social mobility and social creativity. It can be conjectured that a bicultural identity helps achieve positive distinctiveness through the construction of a fluid cross-cultural identity that is socially mobile and secures protection from threat on the basis of a singular identification.

To conclude, SIT provides an illuminating framework for exploring different experiences of being deaf. With a changing population due to the rise of cochlear implants and an increasing focus on mainstreaming, attention to social identity and how it affects life outcomes is needed more than ever. As our on-going research is investigating, the relationship between cochlear implants, social participation and identity is not at all straightforward and demands consideration of these
important processes of positive identification and belonging. The next generations of deaf children and adolescents may follow different paths of identity formation and may therefore need to be supported in different ways.

Madeleine Chapman, PhD, is postdoctoral fellow at the University of Aarhus, Department of Education, Denmark. Madeleine’s research interests are the social psychological dynamics of diverse intersections of identity and culture. Jesper Dammeyer, PhD, is associate professor at the University of Copenhagen, Department of Psychology, Denmark. His research career has focused on the psychological development and health of children and adults with deafness and deafblindness.

References:
Reluctant teenagers
Wendy McCracken examines factors behind the reluctance of some teenagers to wear radio aids

There is evidence that the teenage years are a time of heightened sensitivity to social pressure; indeed Johnson et al. (2009) note that social context and social acceptance play a pivotal role at this time as they influence the majority of adolescent typical behaviours. When thinking about radio amplification the tendency is to explain any reluctance that teenagers demonstrate on social acceptance and a drive to be one of the group. Any such explanations need to be tempered by an understanding that this is a complex area. There is evidence from fMRI studies that the structures and processes of the brain change during adolescence (Geidd et al. 1999). Many factors have been identified which influence these changes (Johnson, ibid); these include such factors as experience, parenting, socioeconomic status, self-efficacy, individual agency, nutrition, culture, psychological well-being, physical and built environments and social relationships and interactions. Some of these are beyond the influence of a Teacher of the Deaf – socio-economic status, culture and nutrition – whilst other areas are subject to influence and experiences that ToD can directly impact.

Experience – the radio amplification should be well fitted, radio aid advantage established, checked regularly by the ToD and used appropriately. Whilst appearing obvious, there is evidence that even regular checks are not undertaken and that mainstream staff find it hard to make appropriate use of such technology. In a national study, deaf youngsters frequently reported teachers forgot to use mute:

“We can hear what is being said; when I am working I find this very hard” (C8)*

Parenting – if a radio aid is only worn at school parents will be less able to advocate that it is used. When asked about radio aids, parents reported:

“It’s something that happens at school” (P4)* or “Can’t help (with the research) I don’t know anything about it” (P2)*. This contrasted with the parents where the radio aid had routinely gone home, “It’s changed our lives; she loves to listen to music, watch shows, we use it all the time” (P14)*

Self-efficacy – do deaf teenagers have the language and communication skills to negotiate with mainstream staff, ask their year tutor or class teacher to change the way the radio transmitter is used? One teenager arranged, via the Head of Year, for all subject teachers to greet children at the door, allowing him to simply hand over his transmitter, with minimum fuss.
Individual agency – as seasoned radio aid users, teenagers have valid opinions about their amplification. They become increasingly aware of lessons where they feel they can work without a radio aid, equally aware of lessons where it is essential. Whilst it may be that a ToD wants the radio aid worn all the time, negotiation, a reasoned argument and mutual compromise may be a more useful approach.

Psychological well-being – with the majority of deaf children being mainstreamed and digital natives they want connectivity both at school and in their social lives. As ToDs are not digital natives it is important that this new group is offered the opportunities that the technology provides. Naturally budgets are limited but youngsters should be aware of the possibilities. Angie Howgate** looked at the use of the Roger pen with some youngsters; their comments are illuminating:

“I can listen to music and not disturb my Mum, although sometimes I don’t hear her talking to me and she thinks I am ignoring her, until I start singing, then she realise I have my pen in my pocket”

or Skype “I can now be involved listening to my sister who lives away.” Listening to music or using social media are exactly what others of this age do, without thinking. Being part of the group extends well beyond school or college.

Physical and built environments – room acoustics are not simply something that impacts in formal learning environments but also at home and in the wider world. Mainstream staff do not have any grounding in room acoustics and fail to routinely take this into account (McCracken et al. 2012). Churchill noted that “We shape our buildings, and afterwards our buildings shape us” (Churchill, 1943) – it is a serious challenge to all deaf learners, making appropriate use of radio amplification a necessity for all children with a degree of hearing loss.

Social relationships – adolescents are more sociable, form more complex and hierarchical peer relationships and are more sensitive to acceptance and rejection by peers (Steinberg and Morris, 2001). This makes it important to consider if peers have had training, do they understand the impact of noise, of following multiple speakers for a hearing aid user, how hearing aids, cochlear implants, radio technology work? Children are naturally curious and when informed can be more sympathetic. They will also benefit if noise reduction measures are taken in classes. Playgrounds are far more challenging and, so far, radio aid technology has not been a suitable approach but it may be that technology, like the Roger pen, will offer at least a partial solution.

Radio aid usage is not simply about the technology – it is linked to the individual wearer’s ability to advocate and be sure their ToD is listening, their developing theory of mind to understand others’ views and underlying experiences. They do not like clunky, they do want slick both in terms of look and the way it is used. All radio amplification must be individually fitted and checked – it is not appropriate to let teenagers tell you – they can use a test box and demonstrate it. Radio aids, when used sensitively, offer a massive range of possibilities, from accessing work on an IPad, to learning to ride a bike, to gaming on an Xbox, to accessing a smartboard or smartphone. Teenagers want to be connected; many factors may make them reluctant – most of these can be addressed by positive working and seeking opportunities to ensure they exploit the technology to the full.

Wendy McCracken is Professor of Deaf Education at the University of Manchester.

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Lesson Capture: Using This New Tool for Deaf Students

The technology we know as ‘soundfield’ (voice amplification for improved comprehension during live instruction) is evolving rapidly to meet new educational challenges and opportunities. One of these innovations – automated lesson capture – is proving particularly powerful for ToDs and the children they work with.

What Is Lesson Capture?
Lesson capture is simply an MP4 (video) file demonstrating an important concept. It’s a recording of content displayed on the teacher’s computer or interactive whiteboard – maths solutions, PowerPoint slides, a history video, etc. – including the audio from soundfield mics and media. Web or document camera video can also be included in the capture – great for chemistry or biology demonstrations. Most are taken from the normal course of a day’s instruction and are easily long enough to convey the main idea and give a few examples.

Lesson capture originated at universities to provide homework support and make ‘flipped learning’ more effective. Although adoption was slowed by the extra time required to prepare these videos, advances in automation over the last few years make lesson capture nearly effortless for both teachers and students.

It’s an exciting technology, because while any student can miss a key concept in a lesson, the problem is compounded for students with special learning needs or a hearing loss. Donna Willis, a year five teacher in California, USA, says ‘[Students] may have missed something and are building on a misconception. Being able to review a lesson on demand is a lot like having your own private tutor.’ Automated lesson capture technology lets students return to the original lesson’s examples as often as needed to get on the right track. ‘I would not be able to do this without the system,’ she says.

A New Tool for Deaf Students
Stephanie Childers, AuD., CCC-A, is an audiologist serving three school districts in Iowa, USA. She chose soundfield technology for her classrooms in large part based on its ability to support lesson capture. ‘Juno has everything we need in a single unit,’ Dr. Childers says. ‘It’s installation-free, offers outstanding sound quality and coverage, provides easy integration with PFM systems, and – most important to us – enables easy lesson capture.’ Other systems are available.

When teachers share a concept that students mustn’t miss, they simply say ‘begin’ to start capturing the lesson. Software then records a video of whatever content is on the interactive whiteboard or computer. The software can automatically title the lesson according to the weekly schedule, and post it to the teacher’s webpage or a shared folder where students can access it minutes later.

What could take teachers significant after-school time and many extra steps – including creating, naming, and posting the screencast – is all done automatically.

‘Some teachers didn’t feel they had the skills to process and post their videos. Others didn’t have the time. Dr Childers says” The system does the work and makes capturing lessons more accessible to more teachers – benefiting more students”.

Dr. Childers reports that classrooms using this technology have seen a dramatic improvement in student performance – especially in upper years where students must retain lecture information in order to succeed. Dr. Childers attributes this success to both the live soundfield amplification and students’ ability to easily access lessons for review.

Getting Started
Successfully capturing lessons for deaf students isn’t hard, but has a few basic prerequisites:

1. **A wireless microphone for clear voice audio.** Ideally, this is a multi-mic soundfield system so that student voices can also be captured. A laptop microphone is not adequate – it’s generally too far from the talkers to be intelligible.

2. **A teacher computer for visual content (eg PowerPoint, interactive whiteboard writing, and so on).** To capture voice audio, plug an audio cable from the soundfield into the mic-in jack.

3. **Lesson capture software.** There are many apps available, but I recommend keeping it very simple, since we’re trying to save teachers’ time after all! FrontRow’s Teacher Edition software simplifies and automates the steps. You can download a free trial at https://info.gofrontrow.com/teacheredition_freetrial

4. **Somewhere students can access the recording.** You could save recordings to your computer and email them to students, but it’s much easier to have the software automatically post files to a Google account or web server where students know to look. The Teacher Edition software mentioned above can automatically title the file (eg ‘Mrs. Johnson – Trigonometry 26/4/17’) so it’s easy to find.

Dr. Childers is FrontRow Business Development Manager, UK.
Resilience in military families

Catherine Walker considers if teaching resilience skills to children with a hearing loss from military families is enough to prepare them for an independent adult life.

Service Children's Education (SCE), now Department for Children and Young People (DCYP), provides mainstream education and educational support services for children and young people aged 0-19 years of age, of military personnel 'posted' overseas.

A screening process is completed called the MoD Assessment of Suitability Overseas (MASO). This ensures education and medical services can meet the needs of the C&YP (Children and Young People) with additional needs.

I use the term 'hearing-impaired' not 'deaf' as requested by the C&YP. The families felt 'deaf' meant profoundly deaf and it could mean a 'posting' back to the UK with possible financial and career implications.

C&YP who are part of military families experience additional turbulence compared to peers in the UK. The MoD provides support to military families through various agencies and C&YP are supported through the PSHE Curriculum in schools. The teaching of resilience skills is a key part of the social and emotional support.

Sarah’s family was posted to Germany; she had bilateral mild/moderate conductive hearing loss and wore two hearing aids. Sarah understood that the use of the hearing aids was temporary. She had a myringotomy operation in a German children’s hospital; however, following surgery her behaviour became aggressive both at home and in school. Several Multi-Agency Meetings were held and ADHD or autism were considered as a diagnosis or had something occurred during the operation? The professionals (Speech Therapists, Educational Psychologist, Psychiatrist, CAMHS worker etc.), stated they had little experience of working with C&YP with HI. Strategies were having little impact; therefore it was suggested the family should be ‘posted’ back to the UK. During a Pupil Voice interview Sarah said she felt lied to as she understood that her hearing aids were temporary. Following her operation she was told she had a permanent sensorineural hearing loss and needed hearing aids.

Sarah’s experiences were the reason why I was interested in investigating the social and emotional needs of the C&YP with HI posted overseas to Germany. There were eight C&YP with HI, with different hearing loss – ranging from mild to severe – unilateral and bilateral hearing loss. For balance a group of 20 hearing C&YP also took part.

I devised my own social and emotional needs questionnaire for the project and it focused on:

- events that had occurred in the last year as a military C&YP
- how they approached challenges in their life
- how they were as a person
- their thoughts, emotions, feelings and relationships.

The questionnaires showed the C&YP with HI had experienced fewer opportunities to be team captains, prefects or to go away on residential trips. They had experienced similar school moves, but stated they found it difficult to make friends in a new school. The C&YP with HI felt they experienced difficulty expressing their emotions and getting on with people. The difficulties affected them more in school and with friends rather than at home.

The Interviews highlighted three main areas of concern for the C&YP with HI:

**Employment/Job Opportunities**

C&YP (HI) – ‘I don’t think I will get a job. I can’t hear...’

Continued at bottom of next page
Developing literacy using Cued Speech

Cate Calder stresses the benefits of using cueing to enrich the literacy skills of deaf children

Cued Speech (CS) is a simple way to support lip-reading that enables a deaf child – regardless of their level of hearing loss – to ‘see’ every sound in every word as it is spoken. This means that a language of sound, such as English, becomes as naturally accessible through vision as a language of signs such as BSL. The hypothesis behind Cued Speech is that if deaf children are given visual access to speech (either to clarify what they can hear or to replace listening entirely) then they can develop a full mental model of that language. It has been proved repeatedly to be the case, that when cued to consistently, deaf children can think in a language they may never hear, or only partially hear.

Using just eight hand-shapes in four positions around the mouth in combination with the natural lip patterns of speech, the ‘cuer’ is able to create a consistent visual code of everything they are saying, in real time. They are able to entirely differentiate the ambiguous lip patterns that make English impossible to lip-read otherwise and fluent.

In conclusion, the C&YP with HI certainly demonstrated resilience skills. They were able to deal positively with the challenges and difficulties that were presented to them, but this was not enough to reduce anxiety and worries. It is my view that C&YP with HI require specific support to help them plan for their future. Access to specialist professionals who can guide/advise C&YP with HI is required to address mental health needs.

Catherine Walker is a Teacher of the Deaf and Independent Special Educational Needs and Disabilities Consultant. Catherine worked for Service Children’s Education (SCE) for 10 years.
users can speak at a perfectly normal rate while cueing. You can learn the basics in four hours and master the system in twenty. One of the great benefits of CS is that it is content rich from the start; this is because you are simply learning a code for the language you are already using – rather like learning short hand. It is not like learning another language where you need to discover, practise and remember every word as well as mastering the grammar – with cueing you can quickly say anything you want. It is also perfectly possible to take a bi-lingual approach and use cueing alongside signing.

How does this impact on literacy for deaf children? We know that to be fully literate children it is vital to have two skills in place:

i. Good language comprehension
ii. Good word recognition; in other words – phonics.

**Good Language Comprehension**
Deaf children who have been exposed to cued language from an early age have these two skills. Their journey with literacy matches that of their hearing peers; in fact, in our experience they are ahead of the game. Here are some quotes from three profoundly deaf adults about learning to read, two of them long before starting school:

Mark (cued to from birth): ‘I can’t actually remember not being able to read’

Daniel (cued to from 18 months): ‘As I grew up with Cued Speech, it meant that I picked up English spoken in real time and in context … I started reading before I can really remember’

Will (cued to from 2 yrs): “actually found it easier to learn to read than my brothers who are both hearing”.

**Good word recognition – phonics**
Children like Mark, Will and Daniel were quickly able to use their knowledge of the phonetic make-up of cued words. When you see a word being cued, the individual phonemes are implicit in the ‘whole’ in such a way it is easy to see how to synthesise/blend those phonemes and link them to spelling choices, key skills in learning to read and write.

I worked with school-age deaf children who are effectively pre-lingual in English, and my mission was to teach them word recognition skills. We combined Cued Speech with synthetic phonics materials from THRASS (Teaching Handwriting Reading and Spelling Skills) (see illustration on this page), whose charts and software give a visual memory aid for the 44 phonemes and the common spelling choices. Whilst access to the English language remains an issue for these children (and this need could certainly be met by cueing at language level) the growth of their word recognition skills has been striking. Below are examples of some of the results after only 28 to 114 hours of exposure to CS over nine months:

- Phonetic Awareness improved by 2 years and 3 months overall and the average Phonetic Awareness Age improved by 44 months (one subject made a 6 year 5 month leap in nine months).
- Literacy improved by six months, with reading by three months and spelling by six months.
- Lip-reading improved by 66%.
- Lip-pattern production improved by 40.1%.

Cued Speech is the only system to give unambiguous, visual access to both phonemes and the whole of the English language. As such it is uniquely beneficial for literacy.

*Cate Calder is Education and Development Officer, Cued Speech.*
Next time you are out shopping you may wish to visit an electronic department to explore the new voice controlled devices for your home called Amazon Echo Dot and Amazon Echo Smart. The Echo Dot is 3.2cm high and 8.4cm in diameter with the Echo Smart being taller to accommodate speakers.

These Echo devices allow you to converse with the computer voice simulator (chatbot) called ‘Alexa’. You can enquire about anything eg the weather in Barcelona, request music or switch on your house appliances. These devices use similar technology to that in hearing instruments, radio aids and a language environment analysis tool available to the children in our schools.

Both the Echo systems and all hearing instruments (Hearing Aids, Cochlear Implants and BCHIs) have directional microphone technology to focus in on speech. This technology has reached such a level whereby hearing instruments and the Echo devices can understand which environment the user is in. They will automatically make adjustments to ensure speech is continuously identified even during competing noisy background, for example groups of people talking or music. This is achieved by the microphone design and complex algorithms acknowledging the environment and refocusing the microphone beam. Speech recognition is further enhanced by the software cleaning up the input signal and removing the unwanted repetition pattern noise within seconds without the user being aware.

The information about the types of environments and the durations is conveyed in the datalogging report generated by the clinical software at the Audiology Department. The report in pdf or paper format provides information on daily use in hours, their use in different environments such as speech in quiet, speech in noise, music listening and daily radio aid and streamer time.

A system that can further expand on voice recognition and analysis is LENA – Language ENvironment Analysis. The LENA Foundation developed the hardware and software from research (Hart & Risley 1992) that showed spoken language is essential for the development of social and academic success in a young child.

The LENA System serves as a ‘talk pedometer’ measuring a child’s natural environment and providing feedback on child vocalisation, adult word count, conversational turn taking, periods of silence during the day and a description of environmental sounds. This can be used by parents and professionals. It was commented on during the workshop that LENA was able to identify an intrusive sound in the background that turned out to be a noisy fridge that needed attention. Similarly it can show daily TV activity in the room.

Another feature of both the Amazon Echo devices and of radio aids (by Phonak) is that they have the multi-talker area network (MTN) facility. Microphone transmitters are constantly working with each other in a network to ensure the most appropriate microphone is activated at the right speech cue. This will ensure optimum speech recognition is delivered to the child with the radio aid receiver(s) or the Amazon server.

If you were asked ten years ago about technology I doubt you (like me) would have guessed that your house could have a voice controlled pod that could answer your questions and switch on your household appliances or a hearing instrument that can autonomously identify the type of environment a user is in and readjust its microphones or a recording device (LENA) that can identify and count a child’s daily vocalisation activity. However, this level of speech identification technology is available today on many products both in our professional and home life.

James Mander is a Clinical Audiologist with the Ewing Foundation.

References:
Developed by the staff at the Nottingham Auditory Implant Programme
Gill Datta, Amanda Odell, Karen Durbin

This unique profile was designed to chart the development of active listening, understanding, auditory memory and sequencing of babies and young children over the first three years after their cochlear implant operation.

NAMES:
- is based on observations of the functional use of audition
- gives a clear rate of expected progress
- uses age appropriate activities to which families and local professionals can readily relate
- is easy to administer by a range of professionals

For more information email info.uk@AdvancedBionics.com or visit AdvancedBionics.com.
A significant number of deaf children wear hearing instruments that have the microphones placed high on the head rather than in the more natural position – at ear level, facing forward. These would include children using the Neptune sound processor, Rondo sound processor, and bone conduction hearing instruments, both soft band and bone anchored.

The University of Southampton Auditory Implant Service (USAIS) undertakes the initial fit of radio aid systems to children with cochlear implants. Routine speech in noise testing of children wearing cochlear implants suggested that children using headworn microphones might be more susceptible to background noise than those wearing forward facing microphones. If this proved to be the case, such children might be considered suitable for an earlier radio aid fitting than might normally be the case. This study involved thirteen children using the Neptune sound processor. (A subsequent addition to the study included two further Neptune users, and one Rondo user, not included in the tables below).

**The Verification Procedure**

The sound processor microphones were placed in the sound chamber of the test box (Aurical test boxes are used at the Auditory Implant Centre, but the procedures would apply to the FP 35 test box, or any other).

Frequency response curves were obtained at a sound level of 60 dB. A radio receiver was then plugged into the sound processor, and the radio transmitter microphone replaced the headpiece microphone in the test box. A second curve was obtained at 65 dB according to standard protocols for cochlear implant sound processors.

The receiver volume was adjusted so that the frequency response curves matched.

Both Comfort Audio DT 20 and Roger X ear level receivers were used, and FM Genie body worn receivers.

The 60/65 dB level test box sound levels are designed to produce a radio aid advantage of 10 dB, rather than the 15 dB advantage normally aimed for with other hearing instruments. This is to overcome the problems

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**Fig 1. The headpiece microphone typical of this study. The microphone port can be clearly seen**

**Fig 2. Top, the Neptune headpiece/mic in the test box, and below, the resultant FR curve**
of high levels of compression in cochlear implant sound processors.

The Validation Procedure
Speech in variable noise testing was performed, first with speech processor alone and then with the balanced radio aid system. The speech test used was the McCormick Toy Test using six pairs (man and lamb being omitted routinely). The child was placed equidistant between the loudspeaker producing the speech signal at the front, and the speaker producing the noise behind. The speech signal is calibrated to be 65 dB at the ear.

The McCormick Toy Test was used for simplicity, bearing in mind that speech discrimination testing is not the object of the routine but to compare the two conditions quickly and easily, and obtain a right/wrong answer.

Variable noise was used in both conditions. The noise used was pink noise and increased after two correct responses until an incorrect response was made and the noise then reduced. After six such reversals the test stops and the noise level averaged. Signal to noise ratio (SNR) is calculated by subtracting the averaged noise level of the reversals from the constant 65dB speech in both conditions. The radio aid advantage is the difference between the two SNRs.

Results
Table 1 below shows the subjects’ ability to comprehend speech in noise first without radio systems, and then secondly using the radio, with the transmitter 15 cm from the loudspeaker producing the speech signal.

The table shows a wide range of ability to discriminate speech in noise from a figure of -2 to +17, a range of 19 dB, and averaging +9 dB.

Using the radio, the range in speech discrimination ability is maintained, in this condition ranging from -15 to +4 with the average being -5.9 dB. The radio aid advantage i.e. the difference between the two conditions shows an average of 15 dB.

When these results are compared with a similar group using forward facing microphones (table 2) the following points may be noticed:

- Speech in noise discrimination is considerably enhanced with forward facing microphones, ranging from -6 to +12 dB, the average being 2.1 dB as opposed to 9 dB in table 1
- The range of speech discrimination ability remains almost the same (ie. 19 in table 1; 18 in table 2)
- Results using the radio remain more or less the same (5.9 in table 1, 6.5 in table 2)
- The advantage conferred by the radio is considerably enhanced, shown in table 1, average 15 dB, and 8.56 in table 2.

Conclusion
The findings of this study suggest that children wearing head-worn microphones who spend significant amounts of time in noisy educational environments might benefit from earlier radio aid fitting than might normally be indicated for younger children.

Pauline Cobbold is an Advisory Teacher for Hearing Impairment with the West Sussex Sensory Support Team; Colin Peake is an Educational Audiologist, formerly at the University of Southampton Auditory Implant Service until his retirement in January 2017.
Thinking inside the box

Richard Vaughan and Jeremy Hine look at current practice in test box use for radio aid fitting and evaluation

Although they have been acknowledged for many years as one of a Teacher of the Deaf’s most essential tools, recent rapid developments in hearing instrument and radio aids have sometimes led to questions being raised about their place within a professional’s role and how they should most appropriately be used. It is therefore perhaps useful to review where a test box can support the use of hearing technology in 2017.

Why use a test box?
A test box (sometimes more formally known as a hearing aid analyser) is an essential tool that can be used to identify faults quickly on hearing instruments (including cochlear implant processors) and radio aids. It can enable you to discover problems that cannot be identified by a listening check alone. Routine testing of hearing aids, whilst quick and easy to carry out, provides an objective assessment of their performance which can be compared to benchmark measurements and any changes over time can be drawn to the attention of audiology professionals as required.

It enables accurate setting up of radio aid systems in line with established guidance and good practice (a process often known in years gone by as ‘balancing’). It can be used by deaf and hearing staff. Under appropriate supervision, deaf children can sometimes be responsible for carrying out the testing themselves and take more ownership of their hearing aids.

Used regularly, in conjunction with other good practice, it can help prevent problems from occurring. You can leave confident that the student’s equipment is working as it should be. This will provide peace of mind for you and is of course essential for them!

Test boxes used across the UK
Currently the two models of test boxes most commonly used by UK education professionals are the Frye FP35 and the Otometrics Aurical HIT. The FP35 came into widespread use in the wake of the MCHAS programme in the early 2000s. It is robust, reliable and has a straightforward and intuitive operational interface.

The Aurical HIT, while having been commonly used as part of a suite of audiological equipment in clinical settings for several years, has recently begun to be adopted by education services and Teachers of the Deaf. The test chamber has a larger volume than that of the FP35 meaning that it can more easily be used to test the newer range of larger radio aid transmitters with integrated microphones. The system is software based, operated from a tablet computer, and

Frye FP35

Otometrics Aurical HIT
incorporates the internationally recognized ISTS test signal.

**Meeting the standards**  
The newly published 2017 NDCS Quality Standards for the use of Personal Radio Aids support the routine use of test box measures. They state, in QS8, that: ‘Electroacoustic checks must be performed regularly and whenever a part of the system is changed’ and recommend regular checks with baseline measures should be done at least every half term.

**Current challenges**  
The effects of the use of new features in the latest hearing aids can be identified in a test box. Here are just a couple of examples:

1. Directional and omnidirectional microphone modes. The curves represent a Phonak Sky V SP hearing aid tested in an FP35. This shows the difference between the ‘Roger plus M’ setting in omnidirectional (curve 1) and ‘Roger plus M’ when in directional (curve 2). The drop in response in curve 2 is due to the fact that the hearing aid is placed at 90° to the speaker rather than facing it. Remember the default for ‘Roger plus M’ with these new aids in junior mode is directional (not for 0-3 age range).

2. Phonak EasyPhone. This is a feature that automatically engages the AcousticPhone setting on the hearing aid when in close proximity to an electromagnetic field, eg a telephone handset. AcousticPhone changes the hearing aid characteristics to enhance the listening experience for the user when coupling a phone with the hearing aid. Additionally, DuoPhone transmits the sound from one aid to the other and applies some attenuation to the hearing aid microphone. With Phonak Sky V hearing aids these are enabled by default in Junior Modes from age 4. The curves below show a Sky V aid tested in an FP35 and show the effect of the EasyPhone setting when the aid is placed on the speaker in the FP35, which itself generates a strong electromagnetic field. Curve 1 is with EasyPhone deactivated and curve 2 is with EasyPhone activated.

These features present some challenges when using the FP35, particularly when carrying out the FM Advantage procedure. Where practical, if these features are enabled, open chamber procedures with the hearing aid facing the speaker may need to be adopted. It is therefore important to know how the hearing aid has been programmed.

**The way forward ...**  
The innovative and advanced features in the latest hearing instruments are bringing great benefits to deaf children and young people. Although they present some new challenges for teachers, the introduction of the Aurical HIT and appropriate techniques that can be followed when using the FP35, mean that test boxes will continue to play an essential role in the years to come.


You can view video demonstrations showing the use of the Aurical HIT online at: www.connevans.info/aurical

For more information you are welcome to contact Richard: richard@connevans.com or Jeremy: jeremyh@ewing-foundation.org.uk
The increase in use of the iPad is encouraging. I love it as a tool and think it has amazing potential often untapped by many of us with not enough time to explore it. Real life experiences in education are the best but sandwiched in a classroom with limited off-site visits and tension between curriculum and specialism, the iPad can provide experiences for many not easily accessed otherwise. The world is available at the tap of a screen.

There should, however, be careful reasoning about use of the device and the choice of app, in the school context at least, observing school protocols and e-safety rules of course. Increasingly one can restrict access to the range of features and apps through the set up process and by password and even cover the home button. Accessibility is improving all the time – enabling customised gesture for those with additional physical and cognitive need, as well as direct streaming to hearing devices using Bluetooth. Many visiting teachers report challenges of using the iPad in schools and we need to share how some Local Authorities encourage and manage it.

There are a number of apps which can support listening and speaking at different phases. We know both skills are complex, each with its own hierarchical development. The works of Norman Erber¹ and Susan Allen² detail each in turn. Their mantras, respectively ‘detect, discriminate, identify, comprehend’ and ‘perceive, process, produce’, provide useful reminders of the experiences and challenges we need to offer children and young people in order to encourage good listening and speaking. As Teachers of the Deaf we determine where the pupil is on their respective journey and choose what could support and challenge. The old tools of auditory training and speech production – tone bars, Melodica, music and movement, Auditory Training Unit, feather, balloon are superseded by the multimedia tools of the digital world – images, video, sound level meters, spectrograms, graphic equalisers, splitters and the like. The provision of digital hearing instruments and assistive listening devices passes to us the responsibility to harness their potential.

For some children it is enough to ‘switch on’ to sound; for others any launch needs a nudge or even a push, plus a visual or kinaesthetic indicator to confirm what is happening. Profoundly deaf children, even those implanted, may find it hard to make their first sounds … do they know what they are aiming for? They have to experience the sound before they can produce it; limiting to ‘moo’ and LING sounds for months or until we hear them back is not the answer. We need to explore a full range of sound so children can appreciate volume, pitch, duration, rhythm in order to discriminate the semitone above, and the vowel from the diphthong. They need to understand the rules of the game, where to stand for the best catch, how hard to throw, the skill of a partner etc. So it is with conversation: how loud is too loud? what is a whisper? How do they learn unless they are shown?

Early listening games and sound effects:
Peekaboo (looking and listening)
My PlayHome (sound effects of washing machine, mixer etc.)
CookieDoodle (conversation and choices, biscuit crunching)
Musicgroup (play and listen to instruments)
Nursery TV1 (action songs)
Auditory Verbal (LING sounds)
Soundly (transport; ball sounds; animals; instruments; human-all with photos)
Animal Sound (in context; play two or three at once)
What’s that sound? (two or four elements sound and photo match game)

Noise making and speech; combine with listening:
Megaphone (make any sound, record it, play back with visuals – amplifier shakes/pitch trail;

Joyce Sewell-Rutter discusses the use of iPad apps to support exploration of sound and use of voice – listening and speaking

 Peekaboo
 CookieDoodle
 Megaphone
 Decibel 10th
Keezy (record any sounds in a grid format (6 options) – use in a range of ways – matching pairs, classifying, water sounds, odd one out, identification – voices/instruments … syllable length, rhythms)
Speak up and speak up too (simple visual response to sound effort)
Walkie Talkie (speaking from one device to another)
Articulation station (audio game – phonemes/syllables)

Older students:
Decibel 10th (record sound level in dB; see sound graph)
Exploratorium sound uncovered (explorations and explanations – interactive and articles eg sounds made by car parts – and why? Waveforms … pitch etc.)
Noise Room for iPad (sound simulations across environment and social scenes)

Changing sound apps:
Soundrop (altering space changes the sound of the bouncing tone)
Smack Talk (record voice; guinea pig talks back; change pitch and speed to hear the differences; child can control outcomes; fun)

Older students:
Voicer (record sound and play with effects – echo, robot etc). Crop and change.
Music apps (all age – calls for discrimination, joint attention, concentration, anticipation, rhythm, timing and creativity)
Drum roll
Piano
Finger drums
Garage band (Extensive individual or group activities)

Sound apps linked to curriculum:
Pocketphonic (phonic practice)
Clicker apps docs, sentences, connect (audio of word/sentence before selection)
Clicker books (record own voice and sound bites in a story)
A.L.L. (record sentences following a model, save and play back)

Rhyming games (by Skoodal for Oxford Reading Tree)
Say and Spell (by Skoodal for Oxford Reading Tree)

Many of these apps are not games in themselves but need pedagogical thinking and specialist ToD knowledge to set them in the right point on the pathway of each pupil.
Remember to teach the vocabulary to describe similarities and differences.
Promote the connection between listening, lip-reading, speaking and aural feedback as this is pivotal and builds confidence. Provide opportunities for children to be in control, to voice commands; seeing the effect is powerful for a young child.
When listening and speaking don’t happen as we’d expect, we need to investigate. We want children and young people to be confident in their own listening and speaking ability: to understand their amplification equipment and to know what works and what doesn’t and what they could do to help themselves. As Teachers of the Deaf we need to consider what to do differently or additionally.
The best speakers are the best listeners – what are we doing to ensure optimal outcomes? If you wish to add apps or share how you manage use of devices in your context please get in touch.

burwood@ewing-foundation.org.uk

Joyce Sewell-Rutter is an Education Consultant with Ewing Foundation and Burwood Park Foundation (for deaf children with additional needs).

References:
We discuss the Scottish policy context and an investigation into how valid the current Scottish Qualification Authority arrangements are for signing deaf candidates. We then examine an alternative centralised way of producing translated exam papers and how a pilot has been received by deaf students and their teachers. Finally we look at recent US research where guidelines for producing translated exam papers have recently been drawn up.

Since 2003 Scottish deaf candidates have been able to access their exams in sign language and to respond in sign. This second feature is not available in other parts of the UK for most external exams. In Scotland the Scottish Qualifications Authority (SQA) asks centres to provide a communicator to translate the questions and later the video responses, but does not specify any minimum BSL level for this role. Usually the communicator is a teacher of deaf children, but sometimes centres work with BSL/English interpreters to prepare or to support the translations.

Eileen Burns, headteacher of Hamilton School for the Deaf, investigated these arrangements (2011). Drawing on Cawthon’s work from the USA, Eileen questioned the validity of assessments where conditions varied so much between centres. Cawthon defines validity as: the extent to which an accommodation reduces barriers to meaningful participation without changing the content of the test. A valid assessment is one that can be used to compare test scores with those students who did not have the accommodation. In other words, is the test measuring what we think it is measuring? (2010, p.193). Eileen used questionnaires and interviews with 18 people communicating in the exams and five deaf candidates for their views on science exams, shortly after they had completed the exams.

Of the 18 communicators, only five were qualified interpreters (NVQ 4 – 6) and only three had NVQ 3 BSL. Both the students and the communicators themselves were not happy with this situation. Some communicators admitted they were not sufficiently familiar with the science content, or had tried to keep up alongside the science course.

Some questions posed particular problems. The Scottish regulations say that communicators should use the technical term when it exists, but if the sign is iconic, such as the sign for EARTH in relation to plugs, then using it would give the answer (see Fig. 1). Candidates were often anxious about asking their teachers for a repeat of the question, and the communicators in turn were worried whether they could provide exactly the same translation a second or third time.

A second linked project was carried out by the BSL Glossary team, an online dictionary which provides technical terms and definitions in BSL sources from Deaf scientists and sign linguists (SSC, 2017). SQA agreed to a pilot project to test the feasibility of providing one centrally translated exam in BSL, since the amount of technical vocabulary in Biology and Chemistry was sufficient to translate exam papers for 16 year olds (Standard Grades, now National 5 exams).

Centres were provided with a memory stick with pdf exam papers with embedded video clips (see Fig. 2) which meant pupils could open the video, move the video box, read the question and replay the video as many times as they wanted without relying on the teacher. The pace and style of BSL was designed to be accessible to as wide a range of deaf candidates as possible.

The SSC team interviewed 14 pupils, and ten who had studied the course at N5.
level were able to take the paper as a mock exam (Cameron et al. 2011). A further 12 teachers and three classroom assistants were asked for their views on the digital papers by interview (11) or questionnaire. Of the 29 pupils and staff contacted, all but one agreed that SQA should provide digital papers with video for deaf signing candidates. The SSC team collected pupil and teacher views using a webcam with laptop controlled by the interviewee, suggesting to SQA that this method would also make students more autonomous in producing, reviewing and refilming some responses.

Due to changes to the curriculum in Scotland and the centralised costs involved, SQA did not pursue centralised BSL exam papers. They asked the SSC, however, to provide signed examplars for centres, which are now online (SQA, 2017).

Parallel research in the USA has led to guidelines being produced about how to provide American Sign Language assessments (Measured Progress Innovation Lab, 2015; Higgins et al. 2016). With the first National Plan under the BSL (Scotland) Act 2015 now being discussed, the SSC research team hopes that SQA may move forward with centrally produced exams to provide a fairer experience for signing deaf candidates.

Thanks to co-researchers Eileen Burns and Gary Quinn (Heriot Watt University).

Rachel O’Neill is the Programme director for the MSc Inclusive Education at the University of Edinburgh. Dr. Audrey Cameron leads the British Sign Language Glossary of curriculum terms project at the Scottish Sensory Centre, University of Edinburgh.

References:
In 2008, the Australian government moved towards standardising education across Australia and established the Australian Curriculum and Reporting Authority (ACARA). The first task of ACARA was to establish the National Assessment Plan – Literacy and Numeracy (NAPLAN). NAPLAN assesses reading, writing, language conventions and numeracy for students in Years 3, 5, 7 and 9. Special provisions and adjustments can be provided within NAPLAN for students with disabilities. The second task for ACARA was to develop a National Curriculum, implemented across Australian schools in 2014. This National Curriculum allows for special provisions and reasonable adjustments for children with disabilities.

Alongside the work of ACARA, the Australian Institute of Teaching and School Leadership (AITSL) developed the Australian Professional Standards for Teachers which were launched in January 2012. The AITSL Professional Standards define the work of teachers and make explicit the elements of high-quality, effective teaching in 21st-century schools ... (AITSL 2013). The introduction of these standards means that teachers across all education sectors in Australia are required to provide evidence of their practice competence against these standards. The mechanism for this is the Australian Teacher Performance and Development Framework which requires each teacher to meet with his or her principal or delegate for ‘regular, appropriate and constructive feedback on their performance, opportunities to identify areas for development, as well as effective and ongoing support to further improve their practice’ (AITSL 2015).

While the current Australian curriculum and assessment frameworks recognise the individual needs of students with disabilities, the AITSL Professional Standards do not recognise the specialised professionals who work directly with these students. The Standards describe the role of mainstream teachers without acknowledging the specialist skills and knowledge of teachers who are qualified to work with these students.

Australian ToD standards

Trudy Smith discusses Teacher of the Deaf elaborations to the Australian Professional Standards for Teachers
Over a 2 year process, the National Association of Australian Teachers of the Deaf (NAATD) updated their guiding documentation using the same format as the AITSL Statements. The Teacher of the Deaf Elaborations to the Australian Professional Standards for Teachers were launched in September 2016 by meeting with state education systems around Australia. The Association secured a commitment to using the document for:

- staff performance management
- planning and provision of continuing education
- the development of role descriptions and employment strategies.

This document also provides a guide to university and training bodies of the expected skills and knowledge of graduates.

Trudy Smith is Immediate Past President of the National Association of Australian Teachers of the Deaf and Rehabilitation Manager at MED-EL.
How many times have we heard parents tell us that all they want for their child is that they can do the same things as their siblings or hearing children? We know that 90% of children who are deaf are born to parents with typical hearing. Many parents do not know what is possible; they have no previous experience of deafness and their expectations are often low.

As practitioners, our intervention can be more effective if we recognise several differing stages of parental experience, ranging from their response to their child’s initial diagnosis to their self-recognition of becoming confident advocates for their child, as a listener, talker and thinker.

The Stokes’ Six Stage Parental Journey (© AVUK 2015) was developed by the late Jacqueline Stokes, founder of Auditory Verbal UK, and her colleagues. It is based on the reported experiences of families who have undertaken an Auditory Verbal programme. It describes the stages that hearing parents experience when raising a child with hearing loss while adopting a listening and spoken language approach. A practitioner’s response in recognising the differing stages, is to equip parents on this journey, from the initial stage of not knowing what is possible, to ultimately achieving the family’s goal of their child talking alongside typically hearing peers and being a strong self-advocate.

At the BATOD 2017 conference, we set out the crucial questions that practitioners can ask of themselves as an introduction to recognising the stage of the families’ journey and we describe some of the strategies families need to equip them for the next stage.

Stage 0  
‘What do you want for your child?’

This is a key question we ask families when they come to us. They often have little or no experience of deafness but they know that they would like their child to develop spoken language. Asking this question allows them to express what they want for their child which then leads to the next question ...

Stage 1  
‘What will it take?’

The important role for us as practitioners in this stage is to support the caregivers in understanding the importance of the technology in relation to auditory brain development. They need to feel confident in knowing how to check that the technology is working optimally and to use strategies to ‘switch on’ their child’s auditory attention and celebrate auditory responses and learning.

Stage 2  
‘What is your child understanding through listening?’

During this stage the practitioner’s role is to support parents by demonstrating that their child has the potential to listen. We need to guide and coach them in creating opportunities in their everyday environment to

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**Stokes’ Six Stage Parental Journey**

<table>
<thead>
<tr>
<th>Stage 0</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
<th>Stage 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Parents want their child to learn how to talk</td>
<td>• Want their child to learn through listening</td>
<td>• Believe their child has the potential to listen</td>
<td>• Active learners in each session</td>
<td>• Are active problem solvers around the challenges and opportunities they see for their child</td>
<td>• Feel competent to advocate for their child as a listener and thinker within and outside the home context</td>
</tr>
<tr>
<td></td>
<td>• Want to learn how to make listening part of their child’s personality</td>
<td>• Have competence with some basic learning to listen strategies</td>
<td>• Drive the sessions with reference to questions arising from family life</td>
<td></td>
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notice how their child is learning through listening. We need to show how it is not about the first words in the beginning but about evidence of listening and understanding.

**Stage 3**

_‘What would you find helpful in our session today?’_

This can often feel like a bold question to ask! An open question can give parents the space to become really reflective in the learning that needs to happen and the strategies they might use. In a joint partnership which focuses on enabling parents to become the child’s best advocate, we need to support parents to become active learners in the sessions.

**Stage 4**

_‘Tell me what you are thinking about this situation?’_

This question allows caregivers to consider the unique challenges and opportunities they see for their child. By asking appropriate questions, we help parents to reflect on the way in which their child experiences his or her social world. An example would be to consider what their child might experience in the playground or classroom. We guide parents to effectively anticipate potential challenges and equip their child so that they have strategies and techniques to overcome them.

**Stage 5**

The final stage is when it is clear that parents understand their child’s listening needs and are proactive in working with their child’s team to meet them. They know how they can support their child’s language, learning and social development, and know that there is always learning happening. Parents believe they are their child’s best expert and are confident to advocate for their child.

_‘AVT] gave us the knowledge to understand the barriers to language and social development and the skills to support her to overcome them throughout her childhood.’_

The AVUK team has delivered presentations on this model at various national and international conferences in 2016 and 2017. To find out more about AVUK, please visit [www.avuk.org](http://www.avuk.org).

Louise Ashton (nee Honck), CertMRCSLT, PGDipAVT, LSLS CertAVT is a senior AV practitioner at Auditory Verbal UK. Karen Gazeley, BA (Hons) Education, QTOD is an experienced Teacher of the Deaf and former Hearing-Impaired Service Manager in Brighton & Hove.

**References**


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**MA Deaf Education** (Teacher of the Deaf Qualification)

A two year, part-time, blended learning programme based in the School of Education, recognised as one of the very best Schools in the UK for research and teaching excellence.

This programme provides you the opportunity to engage with cutting edge research in the field of deaf education and studies, to become a critical and informed practitioner and develop national and international professional networks.

**The programme offers:**

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- the specialist knowledge and skills required to work across a range of educational settings
- recognition of the potentially bimodal and multilingual contexts of deaf children’s lives
- specialist support from highly qualified deaf education, audiology and language professionals
- on-line materials supported by short residential courses, day schools and regional tutorials

Further information including the bursaries available can be found on the website: [http://www.education.leeds.ac.uk/postgraduates/taught-postgraduates/ma-deaf-education-by-distancelearning](http://www.education.leeds.ac.uk/postgraduates/taught-postgraduates/ma-deaf-education-by-distancelearning)

**Programme Team**

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Assessment of mental health difficulties

Claire Wiltshire compares two of the available assessments which she uses to support the social, emotional and mental health of deaf young people.

As professionals working with deaf young people you will be aware there is an ever increasing focus upon results and progress. There is a myriad of assessments which support us in assessing and monitoring the progress of deaf young people across a range of areas of learning from speech development to non-verbal reasoning. Many of these assessments are outlined and evaluated in the incredibly useful NDCS resource ‘Assessing and Monitoring the Progress of Deaf Children and Young People’. However, as it is widely regarded that deaf young people are more likely to develop mental health difficulties than their hearing peers, it is fundamental that Teachers of the Deaf have access to practical and useful assessment tools to support the mental health of deaf young people as well as their learning.

Studies have shown that deaf young people are at increased risk of developing social, emotional and mental health (SEMh) difficulties such as: depression, aggression, oppositional defiant disorder, conduct disorder, anxiety, low self-esteem, poor social emotional adjustment and compromised psychological wellbeing in comparison to their hearing peers. However, there are limited assessments available with which to identify and track these difficulties which makes knowing when to refer for additional support from external agencies, such as Deaf CAMHS, difficult.

Below are a couple of assessments which I use as part of my tool kit for supporting the SEMh of young people I teach:

The Strengths and Difficulties Questionnaire (SDQ), Goodman (2001)
(http://www.sdqinfo.org/)

Age Range: 2-18+
Cost: free
Who can use it?: Parents and professionals working with deaf young people, and deaf young people aged 11+.
What is it?: A one page questionnaire. The whole questionnaire comes in three parts: parents, teachers and young persons (aged 11+) but can be completed using just one of the three parts.
What can it tell us?: The SDQ produces a score of up to 40: 14 or above is deemed to be slightly elevated, whereas a score above 20 is very high. The overall score can also be broken down into five batteries: prosocial, emotional problems, hyperactivity, peer problems and conduct disorders each with a trigger point score.

Pros:
Quick to administer.
This is the standardised test used by CAMHS and recommended by the DfE for use in schools.
Can be used to identify and track difficulties.
As it is conducted in relation to a young person it has no retest time restrictions.
Translated into BSL for use with signing deaf young people aged 11+.

Cons:
Written version has not been standardised on deaf young people in the United Kingdom.
Discrepancies between teacher and parental versions can occur which can create varied results.
Interpretation of results and knowledge of next steps can be difficult if teacher does not have knowledge of SEMh difficulties.
The young person’s questionnaire is not always suitable for children with a language age lower than 11.
Scoring can take time.

Boxall Profile, Boxall (1969)
https://boxallprofile.org/

Age Range: 5-16
Cost: Yes, there is a cost.
Who can use it?: Professionals who work with deaf young people.
What is it?: A two part checklist of questions to be completed by the professional about the young person.
What can it tell us?: The scores of each individual student are compared to the standardised emotional literacy scores of ‘competently functioning’ children of a similar age group.
Individualised, achievable targets for social and emotional aptitudes are then set for the student which are reviewed and re-assessed periodically. Both profiles have two sections, each consisting of a list of 34 descriptive items.

Pros:
Quick to administer.
Can be used to identify and track difficulties.
Suggests targets linked to particular areas of difficulty as identified by the assessment as well as strategies and resources.
As it is conducted in relation to a young person it has no retest time restrictions.

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Listening is a fundamental foundation for literacy. For families who choose an auditory-verbal approach to communication for their deaf child, promoting learning through listening is crucial for their developing literacy skills. The advances in hearing technology, both in terms of diagnosis and enabling access to sound, together with our understanding of effective listening habilitation techniques, means that we can strive, not only for good listening and good spoken language, but for good literacy outcomes for our deaf children too.

At the BATOD 2017 Conference, ‘Positive Futures for Deaf Children: Optimising Outcomes’, we shared evidence of these positive outcomes for children whose families had chosen a listening and spoken language approach to early intervention at Auditory Verbal UK. We looked at the rate of language development as measured by the Pre-school Language Scales1 (PLS) and also collated the children’s levels of standard attainment tests (SATs) at Key Stage 1. Children were included in the study if they had participated in our AV programme for more than a year and had completed two or more PLS assessments.

Research from our ten-year audit (Hogan, 2016) found that the average rate of language development (RLD) for children joining the programme was 0.7. This rose to an average of 1.6 over the duration of the auditory verbal programme (compared to 1.0 for a typically developing child); p<0.0001. On average, these children...
equalled or excelled the RLDs of their hearing peers. Of children who were on the programme for two years or more, approximately 80% graduated from the AV programme with age-appropriate language (AAL) by the age of five years. Of these children, 25% had challenges associated with their aetiology (e.g., those associated with meningitis, CMV, ANSD etc.) in addition to their hearing loss.

The four different classifications for attainment levels of SATs were condensed into two categories: those children who have achieved or exceeded the national expected standard and those who have achieved below the national expected standard. The majority of graduates achieved or exceeded the national expected standard for reading (85%), writing (77%) and mathematics (87%), see figure 1. This finding heavily supports early intervention listening and spoken language programmes for deaf babies and children, showing how an early positive start has a lasting impact on a child’s outcomes.

Within the literature there is suggestion that there is a positive correlation between (i) socio-economic status and (ii) maternal education with language outcomes and so we investigated the demographic profiles of our graduates. As in our 2008 study (Hogan et al), families from a broad range of socio-economic backgrounds enrolled and participated in an individualised AV programme. In our current data collection, 25% of participants resided in the 50% most deprived areas across the UK (calculated using the Index of Multiple Deprivation, 2015). Additionally, mean standard scores of Total Language Scores did not differ significantly across groups of varying socio-economic status (SES). For children whose families come to Auditory Verbal UK and followed the auditory verbal approach for more than one year, SES ‘per se’ was not a significant variable in language and literacy outcomes. It is noticeable, however, that the motivation for these families is a very strong driving force in their child’s success.

We categorised the maternal highest level education into three groups: GCSE, Further Education and Higher Education. Median scores of total language scores found in all three groups were within the expected standard, see figure 2. There wasn’t a strong correlation between Total Language Score and the level of maternal education (Spearman’s rho 0.16; \( p=0.35 \)). From this data we can infer that for this group of children, maternal educational level is not a driving factor for the children achieving good language outcomes when on the AV programme for more than one year.

In summary, for children whose family prioritises listening as a basis for developing spoken language, there is a highly significant increase in programme RLDs compared to initial RLDs; approximately 80% of children who are on the programme for more than two years achieve age appropriate language. Of the children who are on the programme for one year or more, approximately 85% go on to achieve the nationally expected level for reading at KS1, approximately 77% go on to achieve the nationally expected level for writing and approximately 87% achieve the nationally expected level for mathematics at KS1. Neither SES nor maternal education was a significant variable in spoken language and literacy outcomes for children who were on the programme for a year or more.

The positive outcomes from this data have a common denominator – the early intervention programme that teaches deaf babies and children to learn through listening. This reinforces the position that good listening is a crucial part of the development of good language and literacy outcomes.

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References
The successful March Conference determinedly met the challenge of the title – ‘Positive Futures for Deaf Children: optimising Outcomes’. There were many presentations introducing the initiatives and developments that are helping Teachers of the Deaf achieve this goal. BATOD Foundation is holding true to its brief to raise awareness of issues related to all aspects of deafness through the publication of any useful research and relating this to classroom practice. There was much interest and quite a few offers of support and involvement from delegates for the concept of MESHGuides. This considerable enthusiasm for the development of MESHGuides for teachers to provide information 24/7 has encouraged BATOD Foundation to continue with its work with MESHGuides for deaf education.

**Why MESH? The Challenge:**

‘In many countries, education is still far from being a knowledge industry in the sense that its own practices are not yet being transformed by knowledge about the efficacy of those practices...’ (OECD, 2009, p.3).

The OECD identifies a global challenge facing education today as the need to create ‘knowledge-rich, evidence-based education systems’, making relevant research on transformative learning and teaching accessible. International studies (OECD:TALIS 2009, Barber and Mourshed 2009) indicate that improving the quality of our educators is more important than increased financial investment. The OECD challenges governments, academics and practitioners to adopt new ways of sharing and building knowledge. UNESCO’s Sustainable Development Goals and Education 2030 plan requires all of us to prioritise education.

Existing models for system improvement assume that educators and teacher educators have easy access to a high-quality professional knowledge base. Professional pedagogic knowledge which provides the foundations of practice is treated as a ‘magic ingredient’ which does not require discussion, systematic management, renewal, coordination, resources or support. MESH addresses this gap.

Have you ever needed to know ... how others have solved a problem that you face, what research has been done on a subject or how to apply the results of research to improve your teaching practices ... but have not had the time or were not sure where to start?

**Try using a MESHGuide** – visit www.meshguides.org and scroll down to click on MESHGuides to get to the Published MESHGuides menu list.

The growing number of researchers and practitioners who are building MESHGuides are collecting together ideas, concepts and practices to provide a resource that can save you time and energy, reinforcing what they are saying with references and examples. The MESHGuides being published offer ‘one-stop’ resources that gives you access to links and facts about the history, context, interventions, resources and case studies on a wealth of subjects 24/7 wherever you might be in the world.

The menu items offer Acoustics – listening and learning, Spelling, English as an Additional Language, Dyscalculia, Dyslexia, Reluctant Writers and many more. MESHGuides specifically aimed at Teachers of...
Young person forum

Extracts from the parent/young person forum which took place on Day 2 of the Conference

Young people and parents were asked a range of questions during the forum. Here are some brief extracts:

As a parent, what do you think are the most and the least helpful way a Teacher of the Deaf can support you?

The most important thing when I met a Teacher of the Deaf was that they saw my child as an individual. They were meeting my child for the first time, and they wanted to get to know my child. They didn’t come with any sort of generalisations, and that was really important to me. It actually was the Teacher of the Deaf for me who saved my relationship with my child.

The least helpful thing you can do is to come along and just have an idea in your head, that all children who are deaf are the same, and have the same sort of level of difficulty and the same sort of needs in terms of the help you give them.

We are the parent and we know our child better than you will ever know them, and you will have to come and complement what we are doing ensuring that you are giving us the right information, not telling us we’re doing something wrong.

So, for me, any Teacher of the Deaf should always have high, high aspirations for every single individual child, and that is really, really important.

For the young people: we would like to know what you think is the most and the least helpful way a Teacher of the Deaf can support you. That could be in school, at home, outside the home, whatever.

Well, the Teacher of the Deaf should be quite respectful of the personal space of the deaf student. Like I don’t want a person who’s clingy!

I think it’s really helpful if you have a Teacher of the Deaf who you feel you can trust and who can talk about things and they will listen to you, and they will actually help you with it, as opposed to making you feel like it’s your fault, or something.

How can a Teacher of the Deaf support deaf children to access social activities, both inside and outside of school?

Where we are, we’ve got a very supportive children’s deaf society group, and the Teacher of the Deaf, all the Teachers of the Deaf are very much involved in that by liaising with those people, coming to meetings, and they sort of can facilitate for new parents that sort of introduction to the group.

I think the Teacher of the Deaf was very supportive

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the Deaf are in short supply – ‘Research with BATOD Foundation’ is aiming to improve the situation in deaf education by facilitating experts in the field to create relevant MESHGuides. On the way towards publication later in 2017 are Autism and deafness, FM – Radio aids, Assessment – and several others have been suggested by enthusiastic Teachers of the Deaf. If you want to know more, please visit the BATOD Foundation website or email meshguides@batodfoundation.org.uk to express your interest.

Rather than ToDs continually re-inventing the wheel you can help reinforce our deaf education knowledge base by sharing your expertise and sending case studies to demonstrate good practice and illustrate the points made in the MESHGuides. Several of the published MESHGuides could be extended to include contributions from deaf education – and our own pool of knowledge could be enhanced by using and adapting the content of the MESHGuides already there.

BATOD Foundation’s next steps in building more MESHGuides will:

- empower professionals in deaf education to be more effective
- support recent research with reports of classroom practice providing evidence of effective development and verifying research
- provide evidence of improvements in the life chances of deaf children and their peers by developing classroom practice and conditions
- provide classroom practitioners with positive arguments for change
- offer practitioners the opportunity to access up-to-date information easily and at any time to provide affordable CPD opportunities.

Ann Underwood was BATOD President (2008-2010) and is the Chair of Trustees, BATOD Foundation.

References and Further Reading

UNESCO’s Sustainable Development Goal 4  
http://en.unesco.org/sdgs/?p=942


www.oecd.org/edu/school/43023606.pdf  
Accessed 30th August 2013
through being available to talk to general groups – like when it was the Brownies, the Teacher of the Deaf would be available to speak to the Brownie leader and other people, if they wanted to understand what my daughter’s needs might be, in order to access those groups.

For the young people: What would be your ideal piece of technology, or what's your favourite new piece of technology? The Phonak Roger EasyPen. It's much better for me than the other one, and it's like I don't feel left out of the conversation, because that's what I used to feel ages ago. And you can put the pen in the middle (of the table) and you can hear every single conversation.

I think, for me personally, it's just getting over the problem of the background noise. It's such a major problem with any technology now. There's so much technology, especially for the younger generation. There's a lot of technology there – the TV, phone and everything. But I think, for people with hearing aids – I can't fault the cochlear implant, but for people with hearing aids, it's just getting rid of the background noise.

To the parents: What's the most useful piece of advice you have had from a professional supporting you? I've had so much and I do consider myself extremely lucky with my LA: we have some excellent Teachers of the Deaf and I couldn't actually pinpoint one piece of excellent information because I've had so much. It's just keep going and try and always focus on – there has to be a little positive no matter how small it is and keep it for us and find it because that's what keeps us going.

We went to the Ear Foundation in Nottingham and saw David Luterman and he said something really, really profound to me at the time when we were struggling going forward, which was 'If you make a considered choice for your child whether to speak or sign, life choices for them, and you're not sure whether they are right or not and you get along that path and at some point realise it's the wrong path, the mistake most people make is they stay on that path and don't change it. Have the courage to look at what you have done. Re-assess it with the knowledge you have got and change your course. I found it a huge weight off my shoulders because I felt the decisions we were making at the time which were massive and all-consuming were the best I was making but if I was wrong I could reconsider. I found that really helpful.

Any quick tips from parents about managing equipment at home? Hearing aids, cochlear implants, top tips. Do not underestimate the importance of a very small battery (laughter) in the life of your child because you know it is one of those things that is obvious – very, very obvious but it's so obvious that you don't always do it so that's my very simple quick top tip.

Two final questions for our young people: What advice would you give to parents and teachers and is there anything you'd tell your younger self when you were little? The advice I would give to my younger self is don't let your hearing affect you. You can achieve whatever you want to do and be whatever you want to be (applause). The advice I'd give to my younger self is to say use the support. Use it. Don't let anyone stop you even though I did that, I let people stop me, I did that but I realise I actually did need it and I'm grateful I got that. Also stand up for your own rights, your own self, your own hearing, and your own needs. Stand up for it.
This paper describes the background for an on-going study using data from Fife, a local authority in Scotland which carries out standardised assessments in reading and maths at the ages of 5 (start and end of first year at school), 7, 9 and 13. Data on 501 hearing children living in the most and least deprived 20% areas (quintiles) are compared, with data on 287 deaf children supported by the Fife service.

There are striking similarities in the patterns of poor achievement in these tests by all pupils living in deprivation compared to their better off peers, and for deaf pupils compared to their hearing peers. At the start of school there is an 18-month gap in vocabulary scores at age three and five between children living in the richest and most deprived quintiles (Scottish Government, 2015). For all learners the deprivation gap widens from age six to 13 for literacy skills: for the most socially deprived quintile, the gap is 13% at the age of six and 22% by the age of 13. In numeracy the gap between pupils living in the most affluent areas compared to the most deprived widens from ages eight to 13 from 21 – 28% (Fife data, 2016).

For deaf learners 12% of deaf school leavers left with no qualification compared to 1% of pupils with no additional support needs (Scottish Government 2016, Table 1). For deaf school leavers, 29% gained one or more Higher compared to 41% of pupils with no additional support needs. The effect of deprivation is also evident in deaf pupils’ attainment from those living in the most affluent to the poorest areas (O’Neill et al. 2014).

Both for children living in poverty and deaf children there may be additional difficulties in listening in the classroom. Understanding spoken language involves both audition and cognition; we combine what we hear with what we know. Signal driven audition has been the main focus for research in deaf children’s listening in school, but top-down processes have increasing significance when the quality of the signal is compromised by noise or sensory hair cell damage.

Noise levels are known to be associated with the type of activity in the classroom and management of the class. Multiple speech sounds create both informational and energetic masking of the information to the child. Energetic masking generally refers to physical masking that occurs within the peripheral auditory system. Although the literature on informational masking provides a variety of definitions and causes, it is generally associated with perceptual masking that

![Figure 1. Comparison of mean Tariff Score by five socio-economic quintiles for deaf and hearing students at age 16](image-url)
occurs within the higher level of the auditory system. Reverberation levels are known to be poorer than those recommended in the BB93 guidelines.

It is generally understood that the auditory system goes through a period of development well into adolescence. Boothroyd (1997) calls this a period of refinement. One area that is subject to development is the ability to attend to the target signal when there are multiple speech sources. For both deaf pupils and pupils living in areas of deprivation there may be auditory immaturity, spatial segregation, energetic and informational masking, and often weaker knowledge of linguistic rules. In addition, deaf pupils will experience distortion and attenuation of the speech signal.

The research question for this study is: What differences are there in attainment outcomes across the primary years of deaf compared to hearing children, using academic and socio-economic indicators? Our hypotheses, based on the literature, are that early language levels and cognitive ability correlate strongly with educational outcomes at the end of Primary; that both deaf and hearing children from more affluent backgrounds have more positive outcomes than those living in deprivation; and that deaf learners and those hearing learners living in areas of deprivation have similar educational outcomes.

The sample of 501 hearing pupils from Fife was recruited for Brian’s PhD study, separate from this one. Based on the Scottish Index of Multiple Deprivation, schools were chosen as having children in the most affluent or deprived quintile. The schools all had enclosed rather than open-plan classrooms and school rolls of more than 150. The sample of 287 deaf pupils all have permanent or ongoing deafness, have been referred from NHS audiology and are on the Fife Council sensory register.

Fife Council currently uses INCAS standardised assessments produced by Durham University. They are adaptive assessments administered individually at a computer, so pupils who perform strongly from the start receive a more challenging set of questions. The assessments are automatically marked. The assessments we will be using in our analysis from the two samples include base line assessments in Primary 1 (aged four to five) in literacy and numeracy. In Primary 3 (aged seven to eight) the tests include reading, spelling, numeracy, verbal and non-verbal ability.

The variables include the Scottish Index of Multiple Deprivation (SIMD) from postcode, the standardised and age equivalent score from the computerised assessments, teacher assessments at each curriculum level (three levels and in each three phases from ages four – 12), age of identification of deafness, degree of deafness, when aided and the presence of an additional disability.

We will be analysing deaf and hearing children’s results by SIMD, focusing on children who are two or more phases ahead or behind the mean. Using a regression analysis we will examine the effect of age of identification, additional disability, poverty and degree of deafness in a staged model.

Although it is too early to predict results, we expect our findings to have implications for the way local authorities allocate resources to deaf children. The skills held by teachers of deaf children in providing language support and intervention and adjusting acoustic conditions could have benefits for a much wider group of hearing children especially in schools in areas of deprivation.

Rachel O’Neill is the Programme director for the MSc Inclusive Education at the University of Edinburgh. Brian Shannan is the Educational Audiologist Manager for Fife Council and Course Co-ordinator for the Audiology and audiometry module at the University of Edinburgh.

References:
Following the publication of revised Quality Standards – QS (NDCS 2017) it is the ideal time to review the methodology for fitting radio aids with cochlear implant (CI) processors.

When to fit radio aids?
Before fitting a radio aid we need to consider if the child is ready to listen with the addition of the radio aid signal. Liaison with parents/carers and local support staff is vital to establish this. At USAIS we use an adapted version of the original fmCHIP (Owston, 2010) to help establish if the user is ready for a radio aid and the support that will be available. For example, it would be expected that the child has:

- developed listening skills
- some independence with their processors and support to manage them
- the ability to give feedback about their listening experiences in an appropriate manner
- a stable CI map (because when a recipient’s device is initially activated, stimulation levels change frequently while they are learning to listen).

The importance of liaising and planning
When planning to fit a radio aid it is very important to consider the resources needed. This includes the technology and its required settings, and the training of staff in the correct use of the system. Periodically the speech processors are upgraded (usually every five years) and it is essential that local staff are involved so any changes needed to the radio aid can be considered.

Providing the desired advantage
The benefits of radio aids are widely recognised and USAIS has been fitting systems since our early work with UKFMWG. Using objective measures is an essential tool to ensure that the listener gets the desired ‘advantage’ of at least 10dB. It is important to confirm that the level and quality of the sound a user hears through the radio aid microphone optimally matches what they hear through their sound processor; we refer to this fitting as verification.

For cochlear implant processors, we need to remember that we are unable to listen to the output of the whole cochlear implant system, but we can measure the input or microphone response and the radio aid input to ensure the two are similar. If the radio aid level is too high there is a risk of compression and possible distortion. If too low, it will make very little difference and could lead to disenchantment.

There are many combinations of implant processors and radio aids. Each processor can be connected to the coupler of an electroacoustic test box using a dedicated lead (and listening accessory if required). See www.connevans.co.uk which also has a link to the Ewing Foundation illustration which shows which lead is required.

Test box procedure
After carrying out a listening check, the processor should be connected to the test box coupler and a baseline curve obtained using the appropriate speech-weighted input level (see below). Then connect the radio aid to the processor, and place the transmitter microphone in the test box. Run a second test curve at the correct level for that processor with the radio aid (see below). The curves should match as closely as possible (within 3 dB for transparency); if they do not, adjust the radio aid system gain (volume) as necessary. It helps to start with a low radio aid gain and increase this until the second SPL curve matches the first.

What is an appropriate level?
Initial work used equal inputs of 65dB SPL to the processor and radio aid. However, collaborative working with the UKFMWG showed that cochlear implant recipients found the radio aid too loud and led to advice in the QS 2008 Part Two – Good Practice Guide pp 33-
This procedure matched a 65dB signal via the radio aid microphone with the response of the processor to a 60dB input. Since that advice, new technology has been released. For example, in the test box the Cochlear™ Nucleus® 6 system shows compression to a 65dB input, so an adapted procedure of 50dB to processor and 55dB to the radio aid has been suggested. Alternatively, some practitioners have suggested matching equal inputs of 60dB both to processor and radio aid. So, with the advent of new implant processors and new dynamic advantage transceiver technology it is important to update the guidance for CI and the UKFMWG plans to collate evidence-based practice online.

**Evaluating the benefit**

Once the system has been verified, its benefit needs to be evaluated. Having matched the systems we need to check their benefit with subjective and objective measures. Questionnaires and the observation of behaviours and responses can provide insight, along with standard speech-in-noise tasks that assess the radio aid advantage. If the user is unable to complete a speech test, or there is not an appropriate test available, simple games using Ling sounds over distance, or observing the listener’s responses with and without the system will establish if access to speech is improved without causing any unwanted reactions or discomfort.

**In summary: plan, liaise, fit, match and check**

We recommend that anyone involved with the fitting of a radio aid to a cochlear implant system should be familiar with the new Quality Standards and how to:

- consider candidacy, ability and experience QS1, 2
- liaise well QS9, 11
- ensure that the sound level is appropriate for the child QS3
- monitor and evaluate regularly QS4, 7, 8, 10, 12
- keep up to date QS5, 6.

For further training opportunities please visit http://ais.southampton.ac.uk/category/training-programme

Sam Bealing, Sarie Cross and Stuart Whyte are Educational Audiologists at the University of Southampton Auditory Implant Centre. Stuart is the current President of BATOD.

**References:**


New Zealand is a country of just over 4 million people spread over 268 square km. Approximately 95% of deaf children are educated in their local school with educational services provided by staff from the two Deaf Education Centres (Powell & Hyde, 2014). One of those, van Asch Deaf Education Centre, is responsible for all deaf children from Lake Taupo in the middle of the North Island, all the way down to Bluff at the bottom of the South Island. This is a wide geographical area meaning some areas are remote and sparsely populated. This poses challenges to providing equal access to education and support services, as well as leaving many of the deaf children without interaction with deaf peers or role models. In addition, for those children whose primary language is New Zealand Sign Language (NZSL), access to fluent NZSL users is particularly challenging.

The NZSL@school initiative started in 2014 after the New Zealand Government announced $11 million new funding for NZSL programmes. The main objective was to provide a quality communication based education system for Deaf students whose primary language is NZSL and who are educated in regular class settings. As Mayer (2007) states ‘Without a full face to face language in place, deaf children often do not have the requisite basis in place for age appropriate cognitive and literacy development’ (p413). Further, the importance of social and emotional resilience and fostering a sense of connectedness between peers can’t be over-stressed, as it is within these relationships children develop social and communication skills and a sense of belonging which can lead to strong self-identity and healthy self-esteem (Antia & Kreimeyer, 2015).

As a way of alleviating the physical isolation and providing access to Deaf role models fluent in NZSL, a pilot e-learning programme was developed for the NZSL@school children based in the Otago region. This involved bringing together three 11-13yr olds, their Resource Teachers of the Deaf (RTD) and a NZSL Specialist Resource teacher once a week via an online platform, ZOOM. This platform was chosen because of the ability to record sessions for later analysis. The aim was to deliver an online interactive programme focused not only on improving the students’ communication and socio-emotional skills, but also as a way of exposing the students and their RTDs to NZSL being used to discuss a variety of topics, thereby encouraging an expansion in vocabulary and a widening of knowledge about world.
topics and concepts in a fully accessible way. In addition, the goals of developing an identity as a Deaf person, building a positive attitude towards being deaf and a positive sense of well-being were considered valid outcomes of this project.

The first step is a team meeting to determine the aims and objectives at the beginning of each term. The team uses a facilitator and also a NZSL interpreter to allow for free flow of information and thoughts. This is a very collaborative process and in itself is useful as the RTDs are also learning more about NZSL grammar and the importance of various aspects such as RHQs. The first term’s focus was on Identity – Who am I? including the grammar for different types of questioning in NZSL and was importantly designed to be modelled, scaffolded and then ultimately student-led.

Term 2’s focus was on information and communication skills. Students were encouraged to pick news items on topics of interest and share these in the ZOOM session. The other students were supported to ask questions continuing to explore the grammatical aspects of NZSL. This has progressed to the students choosing short video clips to discuss – specifically focusing on their reactions to the subject matter. This task requires them to focus on their emotions and why they feel the way they do. Discussing these clips and starting to incorporate student reflection and feedback is far in advance of where we thought these students would be after six months and definitely highlights the importance of peer interaction.

It’s early days yet, but there is greater independence being demonstrated by these deaf students as their pragmatic skills and confidence increase and in addition observations have identified better conversational skills and self-management. Without this e-learning ‘virtual classroom’ it is highly unlikely such gains would occur for these students. For the teachers the positives include increased networking between regions, further upskilling for RTDs, and the ability to support and empower each other in a collaborative way.

This model of learning, using IT resources to overcome the issue of distance and isolation experienced by students (and their teachers) who don’t have easy access to peer interaction and learning not otherwise available in their local area, we believe has huge potential for success in similar environments.

Dr Denise Powell is a Senior Lecturer and Endorsement Coordinator for the PGDipSpTch (Deaf and Hard of Hearing) at the University of Canterbury, New Zealand.

References:
Powell D and Hyde M (2014). Deaf Education in New Zealand: Where we have been and where we are going. Deafness Education International 16(3): 129-145. http://dx.doi.org/10.1179/1557069X13Y.0000000031
When everyone arrived at the Manchester Conference Centre, there was a great atmosphere. The venue looked fantastic and as delegates were greeted, they enjoyed tea, coffee and pastries.

The demonstration Soundfield system came into good use to round everyone up for the first keynote speaker: Dr Christine Yoshinaga-Itano, who presented her research on the development of pragmatics in children with a hearing loss.

Following this, the selection of breakout workshops gave us the opportunity to select areas of particular interest to attend. I particularly enjoyed a session about new international arrivals to the service delivered by Anna Likierska, a ToD from Sheffield’s Sensory Impairment team. Professor Barry Wright followed this with a talk about mental health and emotional struggles, which was informative and an important issue, considering one in four people struggle with mental health issues. The final keynote speaker, Helen Chilton had everyone engaged whilst sharing her research into Theory of Mind, which included some fantastic examples of work done by children in the research group.

The first day ended with the BATOD dinner which was kicked off with performances by the amazing 4ORTE ensemble. Following this was a fantastic three course meal and a great opportunity to socialise with those attending.

On the second day, Dr Tonya Bergeson-Dana was the first of four keynote speakers. She promoted the role of music and play, which complemented the previous evening’s performance by 4ORTE and Wendy McCracken and Danny Lane’s appearance on BBC Breakfast. She was followed by Professor Terezinha Nunes and Professor Connie Mayer. A highlight for me was seeing the group of deaf children and their parents take to the stage to answer questions about their experiences in education and their relationships with Teachers of the Deaf. Professor Wendy McCracken ended the weekend with a short and sweet summary of the conference and highlighted that we need to have positive aspirations for deaf children and to focus on what they can do.

As a current trainee Teacher of the Deaf at the University of Manchester, it was great to hear speakers whose articles I have cited throughout my course, share their research and thoughts in person, along with having the opportunity to discuss this with them. It was also extremely interesting to speak to people from services and organisations all around the world and compare their training and experiences to my own. It was also a privilege to represent the University of Manchester at our stall and have the conference in Manchester whilst studying here. I think all my fellow students will agree that we have felt part of the organisation watching Helen Chilton and Wendy McCracken prepare over the last six months! It was great to see all of the hard work (and sleepless nights!) pay off for what was a great experience!

Lisa Mart is currently training to be a Teacher of the Deaf at the University of Manchester.
Being one of the last contributors to BATOD memories, frees me to focus on more personal anecdotes. Previous members have given the bigger picture – the Warnock Report, the 1981 Education Act, integration, inclusion, teacher training, audiological, medical and technical advances, all of which have shaped our profession.

What a privilege it was to do an end-on, one year, full time ToD course at Manchester University with Professor Taylor and a talented staff of 30 plus, including Jean Howarth, Gordon Campbell, and Geoffrey Redgate. This was an intensive, but exciting time.

Now an ‘expert,’ my first job was in Manchester’s Moss Side. The PHU was at the very top of the Princess Road Victorian building. The occasional pigeon could be seen through the skylight and five buckets were permanently placed to catch the northern rain.

Moving to London and a position at the Norwood Green Primary School PHU Heston, confirmed my belief in natural auralism and integration. An inspirational Head ensured that this was the school policy while Wyn Large, the ToD in the infant school, insisted I join the STD. I even gave a talk at an early conference on the use of the OHP!

Working in Canada at the new Metro School for the Deaf in Toronto was a brilliant experience. Most of the teachers had been trained at Manchester University and many remain good friends. School resources were excellent, but no NHS meant loan hearing aids had to be removed at the end of the day for safe-keeping. Also doing playground duty at minus 30 with the wind factor was not great and the snow which fell in November was a grey concrete lump in April.

Returning to Manchester to do the one year, full time Educational Audiology course was incredibly intensive but stimulating and fellow students David Bond and Ivan Tucker helped us all in the physics experimental workshops.

This led to an appointment in Kingston upon Thames as service head and we quickly established a Primary and a Secondary PHU, Knollmead with Margaret Glasgow and Hollyfield with Margaret Honeywell. Research developments made it possible to for us to introduce the children to Cubex radio aids. They were big and heavy but they pioneered the way for wireless transmission and we understand that Kingston was the first Education Authority to support this new technology.

Now on the STD National Executive and programme committee, our last conference was a weekend at the Randolph Hotel in Oxford. Meanwhile negotiations with the NCTD were going smoothly and at the inaugural planning meeting in October 1976, the NEC unanimously accepted the offer of the NCTD gavel and base to use at all future meetings! Thus BATOD was born 40 years ago with Con Powell as the first President.

There followed ten years on the BATOD National Executive and the programme committee with excellent colleagues including Audrey Guy, Ken Faragher, Mollie Kennedy, Brian Armstrong, and Mike Lockett. We had a hectic schedule which included three weekend conferences. The first at the Grand Hotel Brighton, one week before the IRA bomb plot to assassinate Margaret Thatcher exploded there. The second at the Imperial Hotel Blackpool where we hired an illuminated tram to take the delegates up the storm swept sea front to see the illuminations. In the morning, Michael Reed, ILEA’s Chief Special Education Inspector, found his spectacles 50 yards up the prom where they had been blown. Edinburgh was the third, where pipers played and haggis was eaten at the Mayor’s reception. The less said about the jacuzzi the better!

On the recommendation of NAG, now Delta, we were delighted to host a visit from Princess Diana to the Kingston HI Service. She happily helped the primary children to make apple pies, joined in the singing and enjoyed stroking the rabbit on her lap. Thank goodness he behaved himself.

A Churchill Travelling Fellowship enabled me to visit pre-school programmes and Audiology diagnostic centres across North America from Alberta to Florida. It was a great experience. Do check out their website.

As a founder member of the National Association of

[Continued at bottom of next page]
Special Education Provision – what are children and young people entitled to?
IPSEA – Independent Parental Special Education Advice provides independent legally based advice to parents of children and young people with Special Educational Needs. IPSEA was established as a voluntary organisation in 1983, and became a registered charity in 1989. The organisation was established as the founders recognised the demand to support parents with children with Special Educational Needs to obtain the right education.
IPSEA is now the leading organisation providing independent legally based advice and support for the families of children with SEN and/or a disability. There is no other organisation offering the range of free, independent and legally based support that IPSEA provides.
IPSEA was granted the Queen’s Award in 2015 recognising the work undertaken by IPSEA and its volunteers.
IPSEA has a strong team, with a number of legal professionals and support staff, as well as over 250 volunteers who are trained to provide legally based support and advice to parents. IPSEA also works to influence policy and law, and offers training.
IPSEA has been involved in a large number of high profile cases and judicial reviews. These are posted on our website regularly. For example, the Upper Tribunal decision in the case of Buckinghamshire County Council v SJ [2016] UKUT 254 (AAC), which looked at what amounts to education or training for the purposes of the Children and Families Act 2014. To see this case please visit https://www.ipsea.org.uk/news/2016/upper-tribunal-decision-buckingham-cc-v-sj

How does IPSEA help parents?
Parents are often keen to get provision in place for their children, but are confused about the mixed messages that they receive. Parents are often informed by other parents who have experienced challenges, or by the school or the Local Authority (LA) that they may not be entitled to support for a number of reasons.
Where a child has (or may have) special educational needs or a disability and might require provision for that need, in the classroom or at other times during a school service meetings help to keep me informed.
Working over the years as a TP Supervisor for Oxford Brookes, Hertfordshire and Birmingham Universities and an external examiner for Swansea University, it has been a privilege to support many excellent students. This is not an easy way to become a ToD but as we are all aware new teachers into our profession deserve all our encouragement.
The introduction of the Newborn Hearing Screening Programme revolutionised our work with HI babies and as an Education member of the Quality Assurance team visiting services across England, it was reassuring to see the excellent work being done by many colleagues. Long may this continue despite QA visits being terminated.
What an exciting and interesting profession we belong to – certainly never boring! Educational, technical and medical advances will continue and being a BATOD member is one of the best ways to keep abreast of the changing scene.

Susan is currently working as a Paediatric/Educational Audiologist and ToD based at Kingston Hospital NHS Foundation Trust, Kingston-upon-Thames.
day, that school doesn’t usually provide, IPSEA advises parents to request an assessment for an Education, Health and Care Plan (EHCP). This will ensure that the child or young person’s needs have been fully considered, and provision has been noted for all of those needs.

Do parents need an EHCP for their child or young person?

In the case of Manchester CC v JW [2014] ELR 304 the question of when it might be “necessary” for a statement (or now a plan) to be issued, was considered. It was recognised that this could include the situation where the school or LA simply didn’t understand what special educational provision was needed and would not make that provision.

Once a plan is in place, there is a legal duty upon the LA to ensure that the provision in that plan is made. Failure to do so would be unlawful. So, when children are moving between classes or schools, or their teaching assistant leaves, or the head teacher changes, the EHC plan ensures that the child’s provision continues.

Where a plan is not in place, parents are reliant solely on the school to continue to provide the provision required by their child’s SEN (special educational needs) and have limited recourse if provision does not continue.

The case of MC v Somerset CC [2015] UKUT 0461 (AAC) recognised the importance of the EHC Plan. The Upper Tribunal accepted that a child might need a statement (and may therefore need an assessment) “to access the relevant provision or open the door to the enforceability of rights via s.324(5)”. The same reasoning should apply to the need for a Plan.

How can a parent go about requesting an EHC plan?

A request needs to be made in writing to the LA. The LA has a clear duty to assess a child or young person’s education, health and care needs where they have or may have SEN and they may need special educational provision to be made for them under an EHC Plan. This is called an EHC needs assessment.

This is sometimes called a ‘statutory assessment’ – an assessment that the LA is required to carry out in accordance with statute, in this case the Children and Families Act 2014. It has replaced the old form of statutory assessment under the Education Act 1996.

The request to assess can be made by the school or the parent or young person. Parents often query whether, if the request is not made by the school, it will have a detrimental impact upon the application. The answer to this is simply no.

The LA must thereafter apply the legal test as noted in s.36 (8) of the Children and Families Act 2014.

The test is that the LA must secure an EHC needs assessment for the child or young person if, after having regard to any views expressed and evidence submitted under subsection (7), the authority is of the opinion that

1. the child or young person has or may have special educational needs, and
2. it may be necessary for special educational provision to be made for the child or young person in accordance with an EHC plan.

The test is therefore very simple – does the child have, or may the child have, SEN and may provision be necessary under a plan. Parents are often told that their child must be two terms behind other children in their class. Or that the school MUST have spent £6,000 on them. Or their child simply won’t get a plan. Or the school must request the assessment. Or the parents must try all the school’s suggestions first.

The law is clear. The test is the two-part test above – no other points need be satisfied.

If a parent, young person or their school or college asks the LA to carry out an EHC needs assessment then the LA must respond to the request within six weeks, confirming if they will or will not carry out the assessment.

If the LA refuses, the parent or young person must be informed and has the right to appeal to the Special Educational Needs and Disability Tribunal.

Once a LA agrees to carry out an EHC needs assessment they must by law seek advice and information from a number of key professionals as part of the process. Based on the evidence they have gathered they must then decide whether they will issue an EHC plan for that child or young person.

So, if you want to ensure that a child’s special educational provision is provided for fully, taking into account his or her needs, we would recommend you request an assessment. If you would like to find out more about what provision a child or young person is entitled to the IPSEA website has a huge number of resources. Please visit www.ipsea.org.uk

Can IPSEA help you?

IPSEA is a free service, and is available to all. Appointments are available online, but are very much in demand so please do be patient and check everyday for available slots. Appointments are booked through our website.


Can you help IPSEA?

IPSEA is always looking to recruit keen individuals as a volunteer. Please check out our website as to what opportunities are available to volunteer for IPSEA. https://www.ipsea.org.uk/volunteering

Alternatively you can support the work of IPSEA by fundraising or donating.

http://www.ipsea.org.uk/supporting

Julie Moktadir is the Chief Executive of IPSEA.
NEC met on Sunday 12th March at the Manchester Conference Centre. This followed the amazing International two-day conference hosted jointly with the University of Manchester and members could be excused for looking a bit tired after all the hard work which went into running it! New members Marie Wilkinson and Anna Smith were welcomed to NEC and the President, Stuart Whyte, outlined the programme for the day.

The conference was the main topic of the round table discussion to start with, looking at the feedback from the evaluation forms. This was overwhelmingly positive, with the conference seen as being good value and the two-day format being mostly well received. There were a great many ‘Thank you’ comments in the evaluations, which was particularly gratifying for the organisers! The keynote speakers were well received and the wide range of workshops was appreciated. Suggestions for improvements were noted and ideas for future topics will be considered. There was an excellent selection of exhibitors and they were much appreciated by the attendees. Last but not least, the Friday night party was very popular, with a fantastic performance from the 4ORTE ensemble.

Following the success and the positive feedback from the conference, the possibility of running further two-day conferences was discussed as a future development. In the meantime, conference will revert to the formula of being held in London every other year, alternating with being held in different venues around the regions and nations.

The discussion then moved to thoughts around the difficulties some regions are experiencing both in encouraging members to attend meetings and in recruiting members to sit on local committees. This is an area of considerable concern and one that will be returned to later.

Members then split into three working groups to consider the core issues of the BATOD website, Conference 2018, and Supporting Deaf Children.

The website
- Bids are currently being sought for the redevelopment of the website and a detailed specification has been produced.

Conference 2018
- Next year’s conference will return to London. Although the venue is still to be confirmed the date will be Saturday 17th March 2018.
- Further information will appear on the website.

Supporting Deaf Children
- This group, led by Sue Lewis, looked at the role of the Teacher of the Deaf, working towards the publication of a paper which will examine in depth ‘Why do we need a Teacher of the Deaf?’ This will sum up who we are, what we do and why we need to be there.

We are very scarce but we are highly expert!

Following lunch, the business part of the meeting took place. The minutes and action sheet from December were discussed, the majority of actions being completed. Association business was addressed as usual, looking at those actions and the reports to be considered.

President’s Report
- The President shared details of the forthcoming event at the House of Commons on the 24th May with Nick Gibb to celebrate 40 years of BATOD.
- The President will be attending meetings around the regions and nations and meeting as many members as possible.

National Executive’s Report
- The CRIDE 2016 report has been published and contains data from teachers in special schools for the first time.
- It is very encouraging that there were replies from 17 out of 21 schools for the deaf.

Treasurer’s Report
- The Treasurer presented the accounts for the past year and although there is still a lot of information to be collected from the conference, the finances are looking healthy at present.
- The conference issue of the Magazine will be a bumper one!
- The Journal continues to report high quality peer-reviewed research.
- The new website is going to incur initial set-up costs but this will be an investment for the future.

Consultant’s Report
- All members’ queries have been responded to very quickly.
- Queries and responses are put on the website so that all members can see them.

Reports from Regions and Nations
- All the regions and nations continue to try to deliver training and events for their membership.
- All events are advertised on the BATOD website and on the calendar.
- There continue to be issues in some areas with attendance, with some events having to be cancelled due to lack of support.
Encouraging attendance from ToDs in schools for the deaf is an on-going concern for regional committees.

Some areas are experiencing problems recruiting committee members – please consider helping out by becoming a committee member for your region or nation!

It is, however, very encouraging that BATOD South West has been re-established and hopefully will be well supported!

All BATOD members – please support your local region/nation!

AOB

The Adept Conference 2017 will be held in Edinburgh in conjunction with the Scottish Sensory Centre.

The new, updated FM Quality Standards have now been published

The meeting closed at 2 o’clock.

The next NEC meeting will take place in Belfast on Saturday June 10th.

Sue Denny is a member of the BATOD NEC and Chair of BATOD North.

**Annual BATOD magazine meeting**

Once a year, the Editor, Production Manager, Commissioning Editor and Advertising Manager (and second Commissioning Editor) get together to discuss how the magazine is going and whether anything needs to change. We meet at the offices of Connevans as they are kind enough to lend us a room for the day!

We are always interested in feedback from members – whether there are topics you would like to see covered, something you would like to change about the magazine or if you think there is a subject you would like to write an article about, we would love to hear from you. Contact us at magazine@batod.org.uk

**Appeal for Commissioning Editor**

Commissioning editors work alongside the Magazine Editor to source articles from the membership and the wider profession. There are two Commissioning Editors who work alongside each other and in tandem throughout the year.

► Do you have a network of colleagues and professional links?
► Do you have ideas about the future of the profession and how the magazine can influence this?
► Do you have an hour, 3 times a year to take part in a conference call?

If so, please contact Paul Simpson, National Executive Officer at exec@batod.org.uk

**Congratulations to Ruth Swanwick**

Congratulations to BATOD member and contributor Dr Ruth Swanwick who has been awarded the position of Professor of Deaf Education at the University of Leeds in recognition of her innovative and extensive contribution to the field of deaf education and specialist teacher training.
Auditory Perception Test for the Hearing Impaired (APT/HI)

Auditory Perception Test for the Hearing Impaired – Instruction Manual

It is rare to find resources linked to speech perception. This particular publication stems from Susan Allen’s life’s work in the United States of America. It begins with a test of auditory perception for deaf children which is used to assess whether the child is making the anticipated progress with the selected technology. When children fail to learn developmentally the test can indicate their challenges and the manual and guidebook suggest what remedial intervention might accelerate progress. The emphasis on ‘how’ to intervene to encourage listening and speaking makes this a very practical resource.

The original test, developed in 1994, continued in use at Clarke School, Jacksonville with ongoing research to assess the correlation between auditory perception and speech production performance. It is now revised and accompanied by a guidebook with nine contributors under the editorship of Susan Allen.

The test is presented in a spiral bound coloured book (87 pages). It starts with isolated phonemes progressing to an open sentence task, listing the eight major areas that measure auditory perception as

1. Auditory Awareness Tasks
2. Suprasegmental Aspects – duration, intensity, pitch
3. Prosodic Perception Tasks
4. Vowel Perception Tasks
5. Consonant Perception Tasks (manner, voicing, place)
6. Other Segmental Perception Tasks
7. Linguistic Perception Tasks
8. Communicative Comprehension Tasks

Each item is scored as ‘Developed’, ‘Emerging’ or ‘Missing’ with shaded boxes giving a quick overview of progress. This test is presented using live voice so it is possible to use lip reading, either as a practice or to score an auditory visual profile; proving useful for transitioning from one communication mode to another or assessing reliance on lip reading. Results can then be used to determine targets for focused intervention. The breadth of the test reminds us that speech perception is more than repeating a list of words.

It has some difficulties for standardised use in the United Kingdom. One relates to the use of American English as two sections are problematic. However, one could substitute Standard English words to ensure that syllabification is correct and that ‘skipping’ is not muddled with ‘jumping’. As a live voice assessment, it could lack the accuracy of recorded voice material and use by a team could give rise to standardisation issues. Although the test covers all the developmental areas it allows only a single chance at each aspect; the ‘missing’ result could be due to a lack of concentration rather than a true response. However, one could build on the model given for each area so providing more examples. It could be useful to dip in and target particular areas and re-test following intervention. Using a protocol within a team, applied with rigour, it could be helpful to develop individual profiles and monitor progress.

The test apart, it is the guidebook which I think many Teachers of the Deaf would find helpful. I like its holistic approach and its very real, practical nature. It is intended to support practitioners in designing intervention plans following use of the auditory perception test. However, it covers listening development, speech production and habilitation so could be used as a discrete resource to support the development of listening and speaking, and alongside speech perception tests used locally.

Chapter 1 covers the history of the test and its revision and outlines the contents of the guidebook. Chapter 2 looks at the hearing and speech science concepts and tracks the development of phonemic and phonological awareness. Norman Erber’s work is the focus of chapter 3 and knits together perception, processing and production, a mantra that runs throughout the text. Four wide-ranging case studies recognise that not all children have deafness diagnosed at birth and follow a simple, successful journey to conversation. The early intervention of chapter 4, has some ‘quick look’ figures detailing
normal expectations of auditory and speech and language development – always useful reminders. It includes tips on parent participation as well as two case studies detailing the same destination reached by different routes. The studies include example reports and targets for intervention which could help those unfamiliar with explaining and writing reports of this nature. Practicality continues in chapter 5 with studies of children aged five to eight explaining how the discrete skills relate to literacy. It includes strategies for improving phonemic awareness, using phonics and increasing knowledge of vocabulary and syntax.

Chapter 6 addresses the challenge for the mainstream child who has a delay in speech and language and yet has to confront curriculum learning. Those with additional issues are the focus of chapter 7 and include a child with an auditory brainstem implant. It also details a collaborative approach between teacher and therapist. Chapter 8 outlines the challenges for families where English is not the first language and looks at designing culturally responsive programmes.

The whole work is supported by a companion website with video and audio clips linked to each chapter and helpfully referenced in the margins. The clips are natural ‘everyday’ intervention lessons (some are old with methods we may not use and there are no subtitles) showing children of different ages and levels of deafness. This is a really useful window for trainees who often see so few individuals or for others to extend their experience.

It must be acknowledged this is a detailed approach to the subject, and taught in a special school context where flexibility and autonomy are more readily encountered than in many mainstream settings. There is also the emphasis that ‘listening drives everything’. I would have liked a chapter on amplification at the outset but optimum listening conditions and customised fitting of hearing instruments are a given pre-requisite. What it lacks, for me, is the explanation and the rigour of setting up and delivering the auditory perception test to ensure repeatable and standardised practice (calibration, distance, ambient noise, intensity levels, voice etc) but perhaps the expectation is that we know this too. This is not a cheap resource but worthy of accessing through a library or specialist centre. It is a model of what we could and should be trying to achieve from assessment to intervention and as such serves as a useful guide or reminder depending on one’s own experience.

Joyce Sewell-Rutter is Ewing Foundation Consultant and facilitator for the BATOD Deafness and Autism SIG.

BATOD was there representing you...

Between the NEC meetings, members of BATOD attend various meetings that are of particular interest to Teachers of the Deaf. This list is not exhaustive. Your representatives at the meetings listed included: Sue Denny, Stephanie Halder, Elizabeth Reed-Beadle, Paul Simpson, Alison Weaver, Stuart Whyte

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<th>Date</th>
<th>External participants</th>
<th>Purpose of meeting</th>
<th>Venue</th>
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<td>2-3 iCARE</td>
<td>Winter School</td>
<td>Linköping</td>
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<td></td>
<td>7 CRIDE</td>
<td>Regular meeting</td>
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<td></td>
<td>22-24 Kentalis</td>
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<td>April</td>
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<td>May</td>
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<td></td>
<td>9 Communication Trust</td>
<td>Regular meeting</td>
<td>Shelter, London</td>
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Please inform the National Executive Officer, Paul Simpson, if you know of any meetings where you feel representation on behalf of Teachers of the Deaf would be of benefit. Although there is no guarantee that BATOD would be able to attend every meeting, situations could be monitored and the interests of ToDs represented.
### Abbreviations and acronyms used in this Magazine

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<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
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<td>AAL</td>
<td>Age-Appropriate Language</td>
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<td>ABR</td>
<td>Auditory Brainstem Response</td>
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<td>ACARA</td>
<td>Australian Curriculum and Reporting Authority</td>
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<td>ADHD</td>
<td>Attention Deficit Hyperactivity Disorder</td>
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<td>ANSD</td>
<td>Auditory Neuropathy Spectrum Disorder</td>
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<td>APT/Hi</td>
<td>Auditory Perception Test for the Hearing-Impaired</td>
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<td>ASL</td>
<td>American Sign Language</td>
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<td>AuD</td>
<td>Doctor of Audiology</td>
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<td>AV</td>
<td>Auditory Verbal</td>
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<td>AVT</td>
<td>Auditory Verbal Therapy</td>
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<td>BB93</td>
<td>Building Bulletin 93</td>
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<td>BCI</td>
<td>Bone Conduction Hearing Instrument</td>
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<td>BSL</td>
<td>British Sign Language</td>
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<td>CAMHS</td>
<td>Child and Adolescent Mental Health Service</td>
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<tr>
<td>CCC-A</td>
<td>Certificate of Clinical Competence in Audiology</td>
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<td>CEO</td>
<td>Chief Executive Officer</td>
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<td>CI</td>
<td>Cochlear Implant</td>
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<td>CMV</td>
<td>Cytomegalovirus</td>
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<td>CRIDE</td>
<td>Consortium for Research into Deaf Education</td>
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<td>CS</td>
<td>Cued Speech</td>
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<td>dB</td>
<td>decibel</td>
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<td>DCYP</td>
<td>Deaf Children and Young People</td>
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<td>DIE</td>
<td>Department for Education</td>
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<td>DHH</td>
<td>Deaf and Hard of Hearing</td>
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<td>Ed Aud</td>
<td>Educational Audiologist</td>
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<td>EdD</td>
<td>Doctor of Education</td>
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<tr>
<td>EHC(P)</td>
<td>Education, Health and Care (Plan)</td>
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<td>FEAPDA</td>
<td>Fédération Européenne des Associations de Professeurs de Déficients Auditifs (European Federation of Associations of Teachers of the Deaf)</td>
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<td>FM</td>
<td>Frequency Modulation – radio</td>
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<td>fmCHIP</td>
<td>FM Children’s Implant Profile</td>
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<td>fMRI</td>
<td>Functional Magnetic Resonance Imaging</td>
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<td>GCSE</td>
<td>General Certificate of Secondary Education</td>
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<td>HI</td>
<td>Hearing-Impaired</td>
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<td>HIT</td>
<td>Hearing Instrument Testing (box)</td>
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<td>HoAS</td>
<td>Heads of Audiology Services</td>
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<td>HOSS</td>
<td>Head of Sensory Services</td>
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<td>iCARE</td>
<td>Improving Children’s Auditory REhabilitation</td>
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<td>ILEA</td>
<td>Inner London Education Authority</td>
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<td>INCAS</td>
<td>Interactive Computerised Assessment System</td>
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<tr>
<td>IPSEA</td>
<td>Independent Parental Special Education Advice</td>
</tr>
<tr>
<td>ISBN</td>
<td>International Standard Book Number</td>
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<tr>
<td>ISTS</td>
<td>International Speech Test Signal</td>
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<td>IRA</td>
<td>Irish Republican Army</td>
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<td>KS</td>
<td>Key Stage</td>
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<td>LARSP</td>
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<td>LENA</td>
<td>Language ENvironment Analysis</td>
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<td>MASO</td>
<td>Ministry of Defence Assessment of Suitability Overseas</td>
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<td>MCHAS</td>
<td>Modernising Children’s Hearing Aid Services</td>
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<tr>
<td>MESH</td>
<td>(Guide) Mapping Educational Specialist knowHow initiative</td>
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<tr>
<td>MP</td>
<td>Member of Parliament</td>
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<tr>
<td>MTN</td>
<td>Multi-talker Network</td>
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<td>NAATD</td>
<td>National Association of Australian Teachers of the Deaf</td>
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<td>NAG</td>
<td>National Aural Group</td>
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<td>NAPLAN</td>
<td>National Assessment Plan – Literacy and Numeracy</td>
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<td>NatSIP</td>
<td>National Sensory Impairment Partnership</td>
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<td>NCTD</td>
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<td>NDCAMHS</td>
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<td>National Executive Council</td>
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<td>National Institute for Clinical Excellence</td>
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<td>NVQ</td>
<td>National Vocational Qualification</td>
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<td>NZSL</td>
<td>New Zealand Sign Language</td>
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<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<td>OHP</td>
<td>Overhead projector</td>
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<td>Paed Aud</td>
<td>Paediatric Audologist</td>
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<td>PFM</td>
<td>Personal FM</td>
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<td>PhD</td>
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<td>PHU</td>
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<td>PLS</td>
<td>Pre-school Language Scales</td>
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<td>PSHE</td>
<td>Personal, Social and Health Education</td>
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<td>RAPT</td>
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<td>Renfrew Bus Story Test</td>
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<td>RDSL</td>
<td>Reynell Developmental Language Scales</td>
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<td>Rhetorical Questions</td>
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<td>Strengths and Difficulties Questionnaire</td>
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<td>Social, Emotional and Mental health</td>
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<td>SENSE</td>
<td>National charity for people with deafblindness</td>
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<td>SES</td>
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<td>Scottish Index of Multiple Deprivation</td>
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<td>SIT</td>
<td>Social Identity Theory</td>
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<td>SNR</td>
<td>Signal to Noise Ratio</td>
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<td>SPL</td>
<td>Sound Pressure Level</td>
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<td>Standard Scores of Total Language</td>
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<td>Teaching and Learning International Survey</td>
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<td>Teaching Handwriting Reading and Spelling Skills</td>
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<td>Universal Newborn Hearing Screening</td>
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<td>United States of America</td>
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<td>University of Southampton Auditory Implant Centre</td>
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<td>VRA</td>
<td>Visual Reinforcement Audiology</td>
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<td>Wh- questions</td>
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<td>WJEC</td>
<td>Welsh Joint Education Committee</td>
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<td>Y/NQ</td>
<td>Yes/No questions</td>
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</table>

If you have found an acronym in the Magazine that isn’t explained in this list, then use www.acronymfinder.com to help you to work it out.
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Full details of membership plus membership form are available at www.batod.org.uk ► The Association ► BATOD Membership

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The BATOD Membership Secretary may be contacted via membership@batod.org.uk

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<table>
<thead>
<tr>
<th>Region</th>
<th>Chairperson</th>
<th>Secretary</th>
<th>Treasurer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Ireland</td>
<td><a href="mailto:batodniireland@batod.org.uk">batodniireland@batod.org.uk</a></td>
<td>Lesley Greehy</td>
<td>Clare Bateson</td>
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<tr>
<td>Scotland</td>
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<td>Fiona Smith</td>
<td>Elaine Harris</td>
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<td>Lisa Whitney</td>
<td>Rhian Gibbins</td>
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<td>East</td>
<td><a href="mailto:batodeast@batod.org.uk">batodeast@batod.org.uk</a></td>
<td>Jo Sayers</td>
<td>Joanne Hughes</td>
</tr>
<tr>
<td>Midland</td>
<td><a href="mailto:batodmidland@batod.org.uk">batodmidland@batod.org.uk</a></td>
<td>Jo Smith/Jo Keyte</td>
<td>Pauline Wells</td>
</tr>
<tr>
<td>North</td>
<td><a href="mailto:batodnorth@batod.org.uk">batodnorth@batod.org.uk</a></td>
<td>Sue Denny</td>
<td>Trish Cope</td>
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<tr>
<td>South</td>
<td><a href="mailto:batodsouth@batod.org.uk">batodsouth@batod.org.uk</a></td>
<td>Stevie Mayhook</td>
<td>Sandy Goler</td>
</tr>
<tr>
<td>South West</td>
<td><a href="mailto:batodsouthwest@batod.org.uk">batodsouthwest@batod.org.uk</a></td>
<td>Emma Parker</td>
<td>Meryl Hunt</td>
</tr>
<tr>
<td>NEC representative:</td>
<td>Helen Maiden</td>
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</table>

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### BATOD contacts and Magazine Distribution

Articles, information and contributions for the Association Magazine should be sent to:

BATOD National Executive Officer: Paul Simpson
Tel/fax: 0845 6435181  Email: magazine@batod.org.uk
...as should Association information and general queries.

Advertisements for the Association Magazine should be sent to:

Elizabeth Reed-Beadle, BATOD Advertising Manager
142 New Road, Hethersett, NR9 3HG
Tel: 01603 812111  Email: advertising@batod.org.uk

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**Journal: ‘Deafness & Education International’**

For full guidelines for submissions and abstracts of papers published in the Journal, plus any other enquiries related to the Journal, please contact

Dr Linda Watson
Email: l.m.watson@bham.ac.uk

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<tr>
<th>Date</th>
<th>Organisation</th>
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<td>12</td>
<td>The Ear Foundation</td>
<td>smiLE Therapy: Stage 1 Training</td>
<td>The Ear Foundation, Nottingham, UK</td>
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<td>BATOD Scotland</td>
<td>Promoting Positive Wellbeing</td>
<td>Jury's Inn, Union Square, Guild Street, Aberdeen AB11 5RG</td>
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<td>15 - 18</td>
<td>The Ear Foundation</td>
<td>Intensive Training Week: Early Intervention – Developing Listening and Spoken Language</td>
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<td>Berkshire – exact location tbc</td>
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<td>Assessments: Better Targets, Better Teaching &amp; Therapy</td>
<td>The Ear Foundation, Nottingham, UK</td>
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<td>22</td>
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<td>Two-day course - Listening with the third ear: counselling skills for audiologists (Day 2 - 3rd July)</td>
<td>The Ear Foundation, Nottingham, UK</td>
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<td>23</td>
<td>The Ear Foundation</td>
<td>The questions of working with diverse populations</td>
<td>The Ear Foundation, Nottingham, UK</td>
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<td>TJ Audiology Services</td>
<td>BSA Certificate Impression taking</td>
<td>Berkshire – exact location tbc</td>
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<td>23 - 25</td>
<td>Audiology Planet</td>
<td>The Paediatric Audiology Course</td>
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<td>24</td>
<td>TJ Audiology Services</td>
<td>BSA Certificate Paediatric Impressions (age 0-5 years),</td>
<td>Berkshire – exact location tbc</td>
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<td>The Ear Foundation</td>
<td>Developing language and literacy in the early years</td>
<td>The Ear Foundation, Nottingham, UK</td>
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<td>6</td>
<td>TJ Audiology Services</td>
<td>Masking and tympanometry refresher course</td>
<td>Berkshire – exact location tbc</td>
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<td>8</td>
<td>NDCS</td>
<td>Right from the Start</td>
<td>Aston University Campus, Birmingham B4 7ET</td>
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<td>10 - 11</td>
<td>Best School of Linguistics (BSL)</td>
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<td>BATOD National Executive Council</td>
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<td>Complex Needs Week</td>
<td>The Ear Foundation, Nottingham, UK</td>
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<td>19</td>
<td>The Ear Foundation</td>
<td>Children with cochlear implants: slow to progress</td>
<td>The Ear Foundation, Nottingham, UK</td>
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<td>adept</td>
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<td>Scottish Sensory Centre, Edinburgh</td>
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<td>26</td>
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<td>Words are not enough: the development of pragmatic communication skills in children with hearing loss</td>
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<td>29 - 30</td>
<td>British Society of Audiology</td>
<td>Annual conference - Audiology and the Greater Good</td>
<td>Majestic Hotel, Harrogate</td>
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<td>3</td>
<td>The Ear Foundation</td>
<td>Two-day course - Listening with the third ear: counselling skills for audiologists (Day 1 - 22nd May)</td>
<td>The Ear Foundation, Nottingham, UK</td>
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<td>5</td>
<td>BATOD East</td>
<td>Children with CI - slow to progress (10am to 4pm)</td>
<td>West Suffolk House, Western Way, Bury St Edmunds, Suffolk, IP33 3SP</td>
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<td>12</td>
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<td>Supporting deaf students in post-16 settings: a training day for Teachers of the Deaf</td>
<td>NDCS, Castle House, 37-45, Paul Street, London EC2A 4LS</td>
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<td>14</td>
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<td>Assessing Children’s Narrative Skills</td>
<td>Bromley, Greater London</td>
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<td>22 - 25</td>
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<td>Summer school for deaf primary school aged children and their families</td>
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<td>22 - 25</td>
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<td>Summer School for deaf babies, pre-school children and their families</td>
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<td>Using the Natural Aural Approach – the Importance of Audiology and an Informed Teacher of the Deaf.</td>
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<td>BATOD Steering Group</td>
<td>Association Business</td>
<td>Birmingham</td>
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