

## FACILITATING LINKS BETWEEN RESEARCH AND CLINICAL PRACTICE



Welcome to the CSLIR newsletter; providing a six-monthly update of the Centre's activities and events.

If you would like to receive future copies of this newsletter and/or find out more about the Centre then please visit:

<http://www.ucl.ac.uk/csliir>

Full references for papers cited in this newsletter, and previous copies of the newsletter can also be found on our website.

### Forthcoming events

Dates for your diaries:

**9-11 September 2015**

**British Aphasiology Society  
Biennial International  
Conference 2015 to be held at  
UCL, Senate House.**



Keynote speakers are:

- Suzanne Beeke: *Conversation partner training*
- Lisa Edmonds: *Verb therapy for aphasia*
- David Howard: *Semantic feature analysis therapy in naming*
- Jane Marshall: *Use of technology in aphasia therapy*
- Cathy Price: *Predicting language outcome and recovery after stroke*
- Jason Warren: *Primary progressive aphasia*

Abstracts are invited from any area of language and related impairments arising from stroke, neurodegeneration or brain trauma and should be submitted electronically no later than **2 April 2015**. For more information visit [www.ucl.ac.uk/pals/study/cpd/cpd-courses/bas2015](http://www.ucl.ac.uk/pals/study/cpd/cpd-courses/bas2015)

**Conference funding** is available from the BAS Conference Support Fund. You don't have to be a BAS member to apply. The deadline for applications is 4 June 2015 at midnight (GMT+1), see: [www.britishaphasiologysociety.org.uk/supportfund](http://www.britishaphasiologysociety.org.uk/supportfund)

For general enquiries contact [bas-2015@ucl.ac.uk](mailto:bas-2015@ucl.ac.uk) and follow on twitter [@BAS2015UCL](https://twitter.com/BAS2015UCL)

### Current project highlights

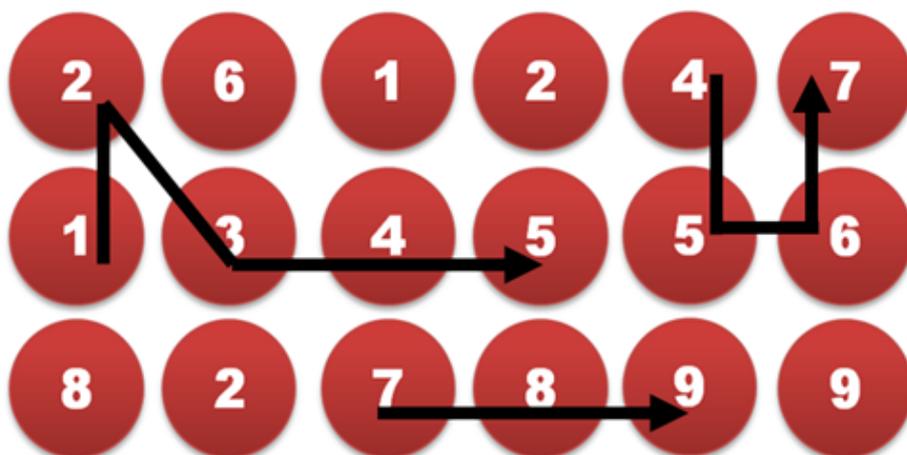
#### Digitizing Therapy: Translating Research into an App

**Caroline Newton,  
Carolyn Bruce  
& Chris Donlan (UCL)**

A team from UCL have won a competition which provides the opportunity to work with software developers to translate their research into an app. The competition was organised by UCL's Institute of Cognitive Neuroscience, UCL Business, and the digital gamification company SoftV.

There is considerable evidence that some people have significant problems dealing with numbers. This includes children with Specific Language Impairment who are at risk for developing mathematical difficulties and adults with acquired language disorders who have lost basic mathematical skills through head injury. A unifying feature of these groups is the particular obstacle that number sequences (counting) present. Difficulties may also be evident with other sequences, e.g. days of the week.

The team's app aims to improve recall and use of numbers and number sequences by linking the phonological form with the Hindu-Arabic numeral. The app



provides the user with the opportunity to practise sequences with increasing levels of difficulty which are based on counting development theory. The app will be targeted at individuals with language difficulties, but is expected to have broader appeal for both adults and children.

### Previous event highlights

#### ICT, Social Media and SLT

**Hannah Dyson (UCL) reflects on Caroline Bowen’s Keynote Speech at “Mind the Gap: Putting Research into Practice” (RCSLT 2014 Conference)**

This September I was fortunate to attend the RCSLT conference “Mind the Gap: Putting Research into Practice”. As well as providing rigorous discussion of evidence-based interventions in SLT, the event focused on new ways for SLTs to promote and disseminate research and best practice. This included an insightful talk given by Caroline Bowen, who is well-known amongst SLTs for her innovative use of the internet and other forms of technology in disseminating resources to fellow professionals (primarily through her website, <http://speech-language-therapy.com>)

You might have thought, given that we are communication professionals that the use of social media such as Twitter would come naturally to SLTs. But in fact this talk highlighted that as a profession we still have much to learn about using such platforms to communicate with others and disseminate ideas. Caroline focused in particular on Twitter, describing it as having untapped potential for intra- and inter-professional discourse.

Caroline’s presentation was informative and thought-provoking, and is available for all to read in both handout and powerpoint format online (see references).

Her talk led me to the following reflections...

There is great potential for us as professionals to reduplicate each other’s work and thinking unless we share ideas and information. Potentially we could be developing ideas (e.g. research, intervention programmes, new ways of assessing clients) in parallel without interacting with each other. This is a huge waste of precious time and resources.

We need to be professional about the way we interact with each other and members of the public (including potential service users) online. It is important not to give “diagnoses” based on scant information posted online. We need to think about how

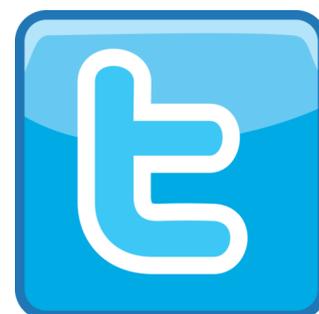
professional standards that we employ in person at work relate to our online presence.

Active involvement is key if as a professional community we are going to make the most of each other’s expertise. Caroline highlighted the “percentage lurk” figures (i.e. the number of people who join discussion groups on a platform like Facebook, and then don’t contribute) – often this is around 98%. This means that only 2% of users are actually involved in the discussion, leading to stagnation rather than a lively exchange of ideas.

Building a presence on social media such as Twitter takes time, but this should not become all-consuming. Tweeting regularly is a good thing, but overdoing it will alienate followers and will be a drain on your own time.

Take-home messages from Caroline’s talk:

- If you have a Twitter account, aim to use it regularly, with around 90% professional tweets and 10% fun or general interest. Try not to do too much “retweeting” of what others say – people are following you to hear your opinion.
- Respond to other people’s tweets and mention their work to start conversations and discussions about SLT and evidence based practice.
- Be aware of the “meeting points” for SLT research. Search for @WeSpeechies on Twitter for the latest



conversations about research and practice.

- Remember that everything you say is public, so set your boundaries mentally and stick to them.

Caroline's talk inspired me to view Twitter not as an unnecessary extra burden but as a place where I can ask questions and gather ideas from other professionals, as well as disseminating my research ideas to fellow SLTs, other professionals and service-users. I would thoroughly recommend reading the resources she has made freely available and then having a go at Twitter for yourself!

**Follow us at @CSLIR\_UCL !**

## Theories & Techniques of Behaviour Change

**Fiona Johnson reports on the CSLIR July Workshop which focused on the use of behaviour change theory and tools within Speech & Language Therapy.**

Speakers at this event included Dr Caroline Wood, Assistant Director at the UCL Centre for Behaviour Change, and Fiona Johnson, PhD researcher in the UCL department of Language & Communication, and Speech & Language Therapist.

Dr Wood presented key theoretical ideas relating to a psychological perspective on human behaviour, including a working definition of 'behaviour' as an individual action carried out in response to an event – which may be either external to the individual, or internal (e.g. a thought or feeling). For behaviour change to occur e.g. in an individual client, or in a team of health professionals, or at an organisational level, the target behaviour needs to be defined and understood in terms of the determining factors that influence

it. Intervention, representing a co-ordinated set of activities designed to change what people do and how they do it, can then be directed towards these determining factors.

Fiona presented some of her experiences and findings from applying a behaviour change perspective to an SLT intervention, using the example of conversation therapy for aphasia. She illustrated how the use of theories of behaviour change can help to clarify mechanisms of change, and also identify the components of intervention expected to be active in producing change. She suggested that theories of behaviour change are an especially useful adjunct to theories of communication and language, given the expanding remit of SLTs to create meaningful change for clients the the level of daily activity and social participation.

**Moving from “It seemed like a good idea at the time” to theory-led interventions for behaviour change**

A key theme across the talks was the difference between a theory-led intervention planning and the more typical approach in which 'common sense' ideas about what might work are used to select activities - the principle of **“it seemed like a good idea at the**

**time”**. Dr Wood illustrated how frameworks such as the COM-B model of behaviour and the behaviour change wheel (Michie, van Stralen & West 2011) can be used to analyse systematically the target behaviour, 'diagnose' the factors enabling or preventing it from happening, and plan intervention accordingly.

Fiona's talk emphasised the benefits of using theory to account for and understand intervention processes, on the basis that it offers clinicians a more systematic approach not only for planning therapy, but for evaluating the strengths and weaknesses of a particular intervention for a particular situation, and for selecting what aspects of intervention to focus on when resources and time are limited.

## Behaviour Change Techniques

Dr Wood introduced a taxonomy of Behaviour Change Techniques (BCTs) collated from a wide range of interventions (Michie et al 2013). These techniques represent the simplest procedures within interventions that may have the potential to activate change.

Fiona illustrated how the BCT taxonomy had been applied to a conversation therapy for aphasia (Better Conversations with Aphasia, [www.extend.ucl.ac.uk](http://www.extend.ucl.ac.uk)), providing examples of how the therapy had been coded for BCTs, and describing how the inter rater reliability of using the taxonomy had been investigated. Among two SLTs, the taxonomy's reliability reached just below the threshold for substantial agreement. While this suggests good promise for the use of BCTs to describe key ingredients within conversation therapy, it also highlights that there may be some issues for its use in SLT, including a lack of familiarity within the profession for certain behaviour change concepts and terminology.



## Challenges and Questions

A number of challenges and questions about the use of behaviour change research in SLT were raised by the presenters and during the discussion afterwards. These included:

Challenges in describing and understanding aspects of intervention that seek to change knowledge and attitudes, and the extent to which this is distinguishable from intervention directed a behaviour.

Different professional terminology between psychology and SLT, which can risk masking the similarities and differences in intervention procedures used.

The extent to which communicative behaviour can be usefully described using frameworks and theory from a field largely focussed on changing health behaviour such as smoking or exercise.

The transferability of existing behaviour change research to neurologically impaired populations

The limitations of a behaviour change approach in being able to describe and account for changes to psychological wellbeing and quality of life.

## Key messages from the presentations

- Interventions benefit from using formal theory to account for how they produce change
- Behaviour change theory and techniques show promise as a framework for planning and describing some SLT interventions
- Opportunities exist for building links between SLT intervention and behaviour change research

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## Other news & awards

We are delighted to award Elizabeth Gooding the first **CSLIR BSc Project Prize** for her work with Dr Christina Smith on a randomised control trial comparing the effect of Lee Silverman Voice Treatment, standard NHS Speech and Language Therapy and no therapy on speech intelligibility in Parkinson's Disease.

Difficulties with speech and voice production affect the majority of people with Parkinson's Disease (PwPD). Speech and Language Therapy (SLT) is recommended to help improve the intelligibility and there are currently two main behavioural interventions: Lee Silverman Voice Treatment (LSVT) and standard National Health Service (NHS) SLT. There is a large and growing evidence base supporting the use of LSVT to improve the intelligibility of PwPD and limited published research into NHS SLT. However, two recent Cochrane reviews concluded there was insufficient evidence to support or refute the efficacy of either SLT intervention in PD due to small sample sizes, methodological flaws and potential

publication bias. This highlights a need for a randomised control trial to assess the effectiveness of SLT for speech intelligibility in PD. This pilot study aimed to fill this void by comparing the two interventions' effects on intelligibility with a control group. Results from this study will inform the feasibility of a full scale phase III randomised control trial.

Thirty-two PwPD were randomly allocated to one of the three conditions: control group, NHS SLT or LSVT. Speech samples were collected at baseline, three months and six months. Each speech sample was played to three listeners who rated the intelligibility at word and sentence level. This small sample revealed no statistically significant differences between the three conditions. However, emerging trends revealed NHS SLT and LSVT conditions experienced more intelligibility gains and maintenance than the control group. Whilst LSVT intelligibility improved the most, therapeutic gains were not maintained at six months. These emerging trends emphasise the need for further data collection along with the large randomised control trial indicated by the literature, ultimately leading to benefits for SLT provision and PwPD.



L-R: Rachel Rees, Elizabeth Gooding and Christina Smith. Elizabeth received a book voucher from J&R Press as part of her prize.

## Speech fluency screening research

### Screening reception class children for speech fluency difficulties

Peter Howell (UCL)

There are many challenges present when a child starts school in the UK. Efficient resources for teachers are vital to ensure children's communication and social skills develop within the educational setting, and to ensure individual child needs are met appropriately. One example where communication difficulties may occur is in producing connected speech fluently. This raises many questions: When should a fluency assessment take place, who should make the assessment, should all children be offered the assessment, should the assessment be repeated periodically, and how should schools and health services liaise?

The UCL Speech Research Group has suggested that entering school is an opportune time for implementing a standard screening assessment of children's speech fluency (<http://www.ucl.ac.uk/speech-research-group/projects/screening-children-for-speech-difficulties>). At school-entry age, many pediatric communication problems have manifested but are nevertheless responsive to timely intervention. A fluency screener would provide teachers with a necessary, quick and efficient resource to use in an educational context. The practical requirement that children with English as an additional language (EAL) must be assessed in English may mean that they are disadvantaged by any speech-based assessment procedure. Furthermore, as some speech-fluency difficulties begin at older ages, repeat testing would be essential.

A survey we conducted recently showed that over 80% of referrals to SLTs originated from schools. However, there is no clearly-structured systematic procedure for identifying children with speech difficulty for use in schools. Such an assessment would be preliminary and followed up by comprehensive testing if an issue is identified. A school-based screening assessment is more practical than parental questionnaires in terms of response rate. In the case of EAL children, SLT evaluation may determine whether fluency is affected in both languages. As well as considering the impact of any difficulties on communication, SLTs also need to explore the emotional and functional impact of fluency difficulties and liaise with teachers to ameliorate these. To this end, further proactive communication between teachers and SLTs must be encouraged and facilitated. In structured interviews, children with speech difficulties and their parents articulated the need for SLTs and schools to liaise after cases for referral have been identified: they want SLTs to communicate the impact of fluency difficulties to schools, whilst also asking that SLTs remain the primary person conducting the intervention.

In response to these challenges, we are developing a fluency-based screening assessment tool for use in UK schools with reception-aged children. The assessment cannot be as comprehensive as assessment by an SLT. It has to be objective, short and appropriate for all children (including EAL children). Our solution for meeting these demands is based on a procedure used for assessing stuttering. An audio recording of spontaneous speech of 200 syllables' minimum duration in English is obtained. In research trials, samples of this length have proven adequate for the purposes of screening assessment; this length is also feasible for speech sampling



given teachers' time constraints. We have identified a set of signs of fluency problems and when these exceed a specified threshold, the child is identified as being at-risk. We are currently exploring the validity of these signs as predictors of fluency disorders. The screening test ensures that EAL children are not incorrectly identified by excluding monosyllabic whole-word repetitions and pauses as signs of fluency difficulty, as EAL children often exhibit these traits when speaking English. Further checks are needed, although we are confident that the screener does not over- or under-identify EAL children as having fluency difficulties.

We have developed a non-word repetition (NWR) test for use with EAL children. We have found that NWR allows EAL children with no fluency difficulty to perform as well as their English counterparts, where they may have been disadvantaged by English-based tests. We therefore believe that NWR will allow for discrimination between fluency difficulties requiring intervention and those which arise due to difficulties speaking a second language. Confirmation of these predictions should validate the current procedure.

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