

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:

26th February 17:15-18:30

Contribution of Theory of Change to Speech and Language Therapy. This event will include presentations from Dominique Lowenthal (Head of Professional Development, RCSLT) & Nabiah Sohail (Highly Specialist Speech and Language Therapist)

26th March 17:00-20:00

RCSLT London Hub, Launch Event. Do you want to support the protection and development of the SLT profession, whilst sharing information with your peers and having a forum to discuss issues and ask questions? The RCSLT London Hub is aiming to do just that and needs the involvement of all SLTs

from all clinical areas and grades to achieve this. Whether you're a manager, NQP, SLT assistant, researcher, practising in the NHS or privately, we encourage you to register for this event.

30th April 18:00-20:00

Doctoral Study at UCL: Free Information Session. The CSLIR is providing an information session for SLTs who are committed to clinical research as part of their career, and are considering further study at the doctoral level (PhD, Professional Doctorate).

Maybe there is someone you know who you think would make an excellent clinician-researcher? Or who has been talking about doing a PhD for ages but never got it together to apply? This session is designed to make the process clear and accessible, and give people the confidence to try.

For more information on how to register to attend these events, please email our administrator Francina Clayton (f.clayton.12@ucl.ac.uk)

Current project highlights

The Effects of English Cued Speech on a Deaf Child's Word Learning.

Rachel Rees (UCL) reports on a single case study with a nine-year-old deaf boy.

Background

Cued Speech (CS), originally developed by Orin Cornett in 1967, is a system of eight hand shapes and four hand placements that are designed to be used alongside connected speech, to disambiguate any lip-reading confusions. Consonants with similar lip patterns (e.g. /p/ and /b/) have different hand shapes and vowels with similar lip patterns (e.g. the vowels in the words "pan" and "pen") have different hand positions. After a short period of training, parents and other adults can become proficient at cueing as they speak. Deaf children, whose parents cue to them from an early age, are potentially able to access the full phonology of their spoken language. Deaf children do not have to cue themselves or "learn" cueing, as CS aims to facilitate their speech perception in an implicit way.

Although cochlear implants can greatly enhance access to auditory information, children using them vary in how much



they can learn to follow speech without lip-reading. Even children implanted before 18 months can take several years to reach a level where they can follow a simple conversation with a familiar person in a quiet environment without lip-reading (De Raeve, 2010). There are some medical conditions (such as hypoplasia of the auditory nerve) that show less benefit from implantation in terms of auditory development (Valero et al., 2012) and so children with deafness due to these conditions would be relying more on lip-reading.

There are many studies demonstrating that the early introduction of CS at home has a significant effect on deaf children's ability to identify spoken words and develop phonological awareness and literacy. However, the majority of these studies report on French CS and some researchers warn us to be cautious before generalising these findings to English CS. There are very few studies conducted with English CS but they do have positive findings. One study conducted by Crain and LaSasso (2010) demonstrated that a group of deaf children with an English

CS background had superior phonological awareness skills to a matched group of deaf children with an oral background.

Method and Results

Our study included an investigation into the possible effects of English CS on the speech perception skills of a nine-year-old boy, Harry, who was diagnosed with congenital bilateral profound deafness due to auditory nerve hypoplasia at 10 months. His parents started to use CS when Harry was 12 months old and he was fitted with a right sided cochlear implant at 27 months. In assessing the effectiveness of implantation, regular reports from the implant centre noted the limited effects on listening. Despite this, his mother reported that Harry had exceeded age-appropriate literacy levels since Year 3. The mother also reported that she had reduced the amount she cued when Harry was between five and six years old because he needed it less for familiar language. She proposed that he now needed CS more for unfamiliar words that he was learning.

Therefore we developed a test to assess Harry's ability to perceive non-words, which are similar to new words in that they will be unfamiliar and yet similar to known words in terms of their structure.

As Harry had some minor speech difficulties we decided against using a non-word repetition test. As he had good spelling skills, we chose instead to develop a non-word dictation test where Harry was asked to write down spoken words with predictable spellings such as "bros" and "trint". We used two versions of the test with matched items. Both versions were presented in a listening and lip-reading (LL) condition and a listening and lip-reading with Cued Speech (LLCS) condition. Raw scores were 10/20 for the LL condition and 20/20 for the LLCS condition. A Pearson chi-squared analysis of the LL and LLCS conditions shows that there is an association between condition and the number of non-words written correctly: $\chi^2 = 13.33$, $d.f.=1$, $p < .001$. The number of correctly written items was statistically higher in the LLCS condition than in the LL condition.

Conclusion

The results suggest that CS was helping Harry to perceive and store novel words and that this effect could have contributed to his development of vocabulary, phonological awareness and literacy skills that were generally in advance of those expected for his age.

This study adds to the evidence that English CS could have a positive effect on deaf children's spoken language acquisition if they are exposed to CS from an early age at home. The current evidence needs to be available to parents who are considering communication options for their deaf child, ideally before the child is 18 months. Training in CS is now easy to access for parents in



An example of cued speech with an infant during story time

the UK and includes the use of Skype classes.

For further information see www.cuedspeech.co.uk. We, as researchers, need to be collaborating with teachers, speech and language therapists and parents of deaf children to add to this evidence base for English CS by conducting further studies.

A full description of the case study reported in this article can be found in:

Rees, R., Bladel, B. (2013) Effects of English Cued Speech on speech perception, phonological awareness and literacy: a case study of a nine-year-old deaf boy using a cochlear implant. *Deafness & Education International* 15 (4), 182-200

Group Therapy plus Home Programme Intervention to Promote Successful “Talk” in People with Chronic Aphasia.

Lyndsey Nickels (Macquarie University) reports on a collaborative project between speech pathologists and researchers at the ARC Centre of Excellence in Cognition and its Disorders at Macquarie University, Sydney and the Speech Pathology Service at St Joseph’s Hospital, Auburn, Sydney.

Background

Our team have been working on a project entitled “Group therapy plus home programme intervention to promote successful “talk” in people with chronic aphasia”.

We (Belinda McDonald, Catherine Mason and Lyndsey Nickels) designed and implemented a six-week group aphasia therapy programme. It was based on an intervention originally reported by Cartwright and Elliott (2009), whose pilot programme was based around promoting strategic TV viewing in an effort to increase communicative success and participation with a group of individuals with progressive aphasia. They used episodes of the ABC documentary series “Australian Story” as the basis for their approach – this documentary series raises topical issues through the eyes of those affected. For example, Alzheimer’s disease was the focus of a programme about Hazel Hawke (the wife of a former Australian Prime Minister), who was diagnosed with the disease. Cartwright and Elliott’s participants improved not only in their ability to convey episode-related information to naïve listeners, but also in discourse comprehension.

Methods and Results

We modified Cartwright and Elliott’s approach to include topic-related picture naming tasks and a home programme component, along with structured and unstructured conversation during each group session. We wanted to know whether including treatment of word retrieval would improve both naming and conversational success more than group therapy alone. The home programme consisted of a word repetition task with a picture cue (picture plus written and spoken word for repetition), using words related to topics discussed in each group. Verbs, nouns and adjectives were used. Half of the

six topics were accompanied by word retrieval treatment and half were not. Three individuals who had mild-moderate chronic stroke-related aphasia, recruited from St Joseph’s Hospital in Sydney, participated in the study.

Data collection is now complete, and preliminary analysis suggests that the home programme plus group therapy condition was more effective in improving picture naming of topic related words than group therapy alone for two of the three participants. This provides evidence for the usefulness of repetition tasks delivered as a self-administered home programme, in improving picture naming for some individuals with aphasia.

Previous event highlights

Last term the CSLIR hosted a Doctoral Research Afternoon that focused on research involving communication, assessment and intervention. Doctoral students from UCL presented a brief summary of their research progress. Below is a selection of abstracts from the event.

The Use of the Regression Discontinuity Design in Evaluating a Vocabulary Intervention Programme for Low-Achieving six to nine year old Children

PhD Researcher: Hannah Dyson

Supervisors: Professor Charles Hulme & Professor Wendy Best

Children’s vocabulary knowledge is fundamental to their understanding of language, and research has demonstrated a positive correlation between vocabulary levels and outcomes in educational attainment (Lee, 2011). It is widely acknowledged that a large vocabulary gap exists between higher and lower

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achieving children, and that this gap widens with increasing age (Biemiller and Slonim, 2001). Recent research has therefore focused on developing intervention programmes aimed at teaching children vocabulary in an effort to enhance oral language skills and bridge the vocabulary gap (Marulis and Neuman, 2010).

The Regression Discontinuity Design was used to evaluate the intervention, whereby every child who achieves below a known cut-off score receives intervention, while their higher-achieving peers act as controls.

Children in the intervention group showed gains on treated words when comparing pre- and post-intervention scores; the effect of treatment was highly significant ($p < 0.001$). This effect did not generalise to untreated words or to a general measure of vocabulary.

This study therefore demonstrated that Wonderful Words is effective at teaching target vocabulary, but that a more sustained intervention programme would be needed to impact significantly on the vocabulary gap.

Early Social Communication Development: The Effectiveness of Small Group Intervention for Preschool Children with a Diagnosis of Autistic Spectrum Disorder.

PhD Researcher: Pam Czerniewska (Highly Specialised Speech and Language Therapist

Supervisor: Dr John Swettenham

Children with a diagnosis of autistic spectrum disorder (ASD) have, by definition, difficulties with social communication and interaction and have difficulties regulating their behaviour. These core impairments in sociability will affect a child's very early experiences.

This research project aims to evaluate the effectiveness of SLT small group early intervention for children with a diagnosis of ASD. These small groups take place in preschools and provide opportunities for children to develop social interaction abilities such as joint attention and turn-taking through structured play routines.

Currently, four children (aged 2;06-3;06) with a recent diagnosis of ASD attending pre-school have been observed on multiple occasions to monitor social communication skills. Specifically, we have assessed the frequency of joint attention behaviours (e.g. looking towards others; sharing enjoyment) during three contexts: (a) an adult-led group activity with peers (b) in structured play with an adult (c) in free play with peers. The group intervention began for different children at different times. Therefore, if intervention is effective, we predict changes in social interaction to be dependent on when intervention began.

The research will provide a fully specified set of intervention procedures to allow replication in other trusts and local authorities. We hope that the observation tool will be of use to other pre-school providers to allow detailed descriptions of children's social interaction with peers and adults in nursery settings.

Changing the Conversation: Looking for Mechanisms of Change in Conversation Therapy.

PhD Researcher: Fiona Johnson

Supervisors: Dr Suzanne Beeke & Professor Wendy Best

By drawing on models of behaviour and behaviour change developed in Health Psychology, my research aims to develop a systematic account of why speakers use the strategies they do in conversation (both helpful

and unhelpful), and to provide some preliminary evidence about what factors may be most influential in the creation of long lasting changes to conversational behaviour.

Data for the study is drawn from discussions and interviews before, during and after conversation therapy with eight participants (who are speakers with aphasia) their chosen conversation partners. Research is currently ongoing.

Other news

We are delighted that for the third year running UCL MSc Speech and Language Sciences graduates have been awarded the **British Aphasiology Society Student Project Prize**. The latest prize was jointly awarded to **Alison Milne** and **Cathy Clair**.

Alison Milne received her award for her project entitled: "A Study to investigate the influence of a familiar and an unfamiliar communication partner on the effectiveness and efficiency of message transaction using total communication in a person with aphasia". The project was supervised by Carol Sacchett from the Research Department of Language and Communication, UCL.

Cathy Blair received her award for the project: "Investigating semantic impairments in people with aphasia using mouse-tracking technology: The effect of semantic distractors in a single word comprehension task". Cathy's project was carried out jointly with another MSc SLS student, Stephanie Earnshaw, and was supervised by Anne Edmundson, also from the Research Department of Language and Communication.