

# Cued Speech – research and evidence 40 years on

In 2016 Cued Speech (CS) celebrates its 40 year anniversary with a conference in America which will be attended by academics and researchers from around the world. In the past 39 years a wide range of evidence has grown which demonstrates its effectiveness and yet there's still confusion in the minds of many people in the UK as to what exactly CS is. The name 'Cued Speech' probably doesn't help matters. Many people believe that the French name Langage Parlé Complété (LPC) or 'completed spoken language' paints a clearer picture and has helped to bring about the situation where every deaf child is offered the option of visual access to French through LPC.

CS is a visual version of the spoken **language** in which it is used. Why then, the name Cued Speech? For hearing children the speech of parents / carers is both how they develop language and the first expression of language, then, when children start school, they have the language they need to learn to read, and then they learn yet more language through reading. For deaf children, CS does the job of speech; it is your speech made visible. When you use the 8 handshapes and 4 positions which are the 'cues' of CS, you turn the 44 phonemes of your speech into visible units which can, like sounds, be combined into words, sentences and, as a result, full language. Just as hearing children learn a full language through listening to speech, so deaf children can learn a full language through watching speech which is 'cued'.

## International research

There is now a wide range of international research on CS. The essential findings (with space constraints forcing me to reference just a few of the scores of relevant papers) are:

- **Understanding English** – Without CS, about 35% of what is said can be lip-read; with CS this rises to 96%<sup>1</sup> making it easy for deaf children to learn and understand English. New research tells us that CS is not lip-reading with an additional cue; the cue is received first, disambiguating the following lip-pattern.<sup>2</sup>
- **Access to early language** – Babies and children can absorb their family's spoken language without delay<sup>3</sup>, just as hearing children do. Cued Speech is 'just' the English language so once the system has been learnt parents and teachers can make the whole of the English language fully visible. Learning CS is rather like learning to type if you can already write and can be learned by a hearing parent or teacher in approximately 20 hours.
- **Second generation cuers** - (deaf children of deaf parents brought up with CS) are reaching the same linguistic milestones in English as hearing children of hearing parents.<sup>4</sup>
- **Belonging and self-esteem** – an American study of 32 adults who grew up with Cued Speech found 'high levels of self-esteem and self-confidence, which they credit to their parents' choice of Cued Speech, their early childhood experiences of feeling included in family activities and conversations and in peer groups, and positive feelings of competence and success in school'.<sup>5</sup>
- **Literacy** - International research demonstrates that deaf children brought up with CS achieve reading scores equivalent to hearing children<sup>6</sup> & <sup>7</sup>and that cueing deaf children acquire phonological abilities better than non-cueing deaf children and comparable to hearing peers<sup>8</sup>. A recent English case-study looking at the perception of phonemes in regular non-words found 50% accuracy in spelling non-words (e.g. 'drump') when listening and lip-reading, and 100% accuracy once CS was added.<sup>9</sup>
- **Speech production** – speech intelligibility was better in CS-using implanted children than non-CS-using.<sup>10</sup>
- **Cued Speech is inclusive** - it helps deaf children get the best from their hearing aids and cochlear implants<sup>11</sup>. On the other hand, whilst CS was intended by its inventor to be accompanied by an audible spoken message, CS gives full access in the absence of any hearing<sup>12</sup> and works well when used bilingually with a signed language.

## Additional points:

- CS is used by professionals around the world to give deaf children full access at school, college and university; France and the USA lead the way in qualifications (degree-level in France) for Cued Speech Translitterators.
- Most deaf children who learn language through CS communicate with speech (although their diction may be poor, especially in the early years) but a very small minority communicate with CS or, when brought up bilingually, with BSL. All deaf children who learn English through CS,

regardless of how they communicate, are able to reap the benefits that full understanding of English will bring.

- CS has been adapted into 63 different languages and dialects, so can be used in the home by families for whom English is a second language and to give access to modern foreign languages.

For busy Teachers of the Deaf who are looking for more general evidence about CS use, I would recommend four additional sources of information:

1. For a quick summary, go to the Cued Speech Association UK website [www.cuedspeech.co.uk](http://www.cuedspeech.co.uk) 'research' section or for personal accounts of CS use look at our 'cuetube' section.
2. For a comprehensive overview obtain the book 'Cued Speech and Cued Language for Deaf and Hard of Hearing Children' (2010). This edited volume has 42 international contributors, including 25 professors or assistant or associate professors and draws on the years of international research to demonstrate the effectiveness of CS and shows that the uses of CS and understanding of it has evolved over time. The six sections look at the background and linguistics of cueing; describe the effectiveness of the system for: (a) phonological perception, (b) natural language acquisition, (c) the development of reading, and (d) atypical populations, and finally report on technological initiatives.  
For practitioners with limited time I especially recommend the chapter(s) on:
  - Literacy (chapters 11- 14)
  - early language development of deaf twins of deaf parents who are native cuers of English (chapter 8)
  - the Minnesota bilingual programme (chapter 10) which reports 95% of pupils making one year's progress in English in one year of time
  - Auditory Neuropathy / Auditory Dys-synchrony (chapter 15) by American AN / AD specialist Dr Charles Berlin, Research Professor, University of South Florida.
3. New this year is an invited paper in the American Annals of the Deaf (Volume 159, Number 5, Winter 2015 pp. 447-467): *Reading for Deaf and Hearing Readers: Qualitatively and/or Quantitatively Similar or Different? A Nature versus Nurture Issue* by Carol J. Lasasso, Kelly L. Crain. The authors quote from a wide range of research to back up their assertion that: 'In our view, the child's hearing status (deaf, hearing) is less important in learning to read than are environmental factors, including: 1) the richness of the child's early linguistic environment leading to an age-appropriate L1 prior to formal reading instruction, and 2) clear, complete visual access to the instructional language (e.g., English, Spanish, ASL) used to deliver the school curriculum via conventional or English Language Learner (ELL) methods.' 'Of the available communication systems to convey English conversationally (oral-aural methods, MCE sign systems, Cued Speech), only Cued Speech is structurally capable of affording clear, complete visual access to English.'
4. Also new in 2015 is a revised edition of the *Oxford Handbook of Deaf Studies in Language*, edited by M. Marschark & P. Spencer (Oxford University Press), with an additional chapter by Jacqueline Leybaert, Clémence Bayard, Cécile Colin (ULB) and Carol LaSasso (Gallaudet University) on: '*Cued Speech and Cochlear Implants - a powerful combination for natural spoken language acquisition and the development of reading.*' The authors say that in the chapter: 'We review the available literature showing that CS enhances speech perception in CI children, and it also favors the appropriate development of the three R's (reading, rhyming, and remembering).'

Nationally there is increased focus on deaf children's outcomes and, as the research demonstrates, CS will deliver access to English and greatly improved literacy. Also the new SEN Code of Practice ('From birth to two – early identification' para 5.16) says that parents of some SEN children, including deaf children, must receive support, which may include 'training for parents in using early learning programmes to promote play, communication and language development'. CS is a very effective **and** cost effective way of providing that support. See our charity's Local Offer page on our website for an

overview of how we can help parents and teachers, or give us a call to chat about options, or the practical use of CS.

Anne Worsfold June 2015

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#### Research references

1.) Ling, D, & Nicholls, G, Cued Speech and the Reception of Spoken Language *Journal of Speech and Hearing Research*, 25, 262-269 (1982) 2.) Troille, E., Cathiard, M., & Abry, C. (2007). A perceptual desynchronization study of manual and facial information in French Cued Speech. *ICPhS, Saarbrücken, Germany*, 291-296. 3.) Torres, S., Moreno-Torres, I., & Santana, R. (2006). Quantitative and qualitative evaluation of linguistic input support to a prelingually deaf child with Cued Speech, *Journal of Deaf Studies and Deaf Education*, 11, 438-448. 4.) Crain (2010) 'Cued Speech and Cued Language for Deaf and Hard of Hearing Children,' Carol J. LaSasso, Kelly Lamar Crain, Jacqueline Leybaert pages 151 – 182 5.) 'Cued Speech and Cued Language for Deaf and Hard of Hearing Children' Carol J. LaSasso, Kelly Lamar Crain, Jacqueline Leybaert pages 183-212. 6.) Use of Internal Speech in Reading by Hearing and Hearing Impaired Students in Oral, Total Communication, and Cued Speech Programs. Wandel, Jean E., 1989. Unpublished Doctoral Dissertation, Teacher's College, Columbia University, New York. 7.) Colin, S., Leybaert, J., Ecalle, J., & Magnan, A. (2013). The development of word recognition, sentence comprehension, word spelling and vocabulary in children with deafness: A longitudinal study. *Journal of Research in Disabilities*, 34, 1781-1793. 8.) Visual Speech in the Head: The Effect of Cued Speech on Rhyming, Remembering, and Spelling. Leybaert, J. & Charlier, B., 1996, *Journal of Deaf Studies & Deaf Education*, Vol. 1, pp. 234-248. **Plus** others, including: Alegria et al., 1990a, 1990b, 1997 and 1999; Charlier & Leybaert, 2000; Colin et al., 2007, 2013; Crain, 2003; LaSasso et al., 2003; Leybaert, 1998. Full references can be found in the paper in the *American Annals of the Deaf* (referred to above). 9.) Rees, R., & Bladel, J. (2013). Effects of English Cued Speech on speech perception, phonological awareness and literacy: A case study of a 9-year-old deaf boy using a cochlear implant. *Deafness & Education International*, 15, 182-200. 10.) Vieu, A. Mondaina, M., Blanchard, K., Sillon, M., Reuillard-Artieres, F., Tobey, Piron, J. (1998). Influence of communication mode on speech intelligibility and syntactic structure of sentences in profoundly hearing impaired French children implanted between 5 and 9 years of age. *International Journal of Pediatric Otorhinolaryngology*, 44, 15-22. 11.) Cued Speech in the Stimulation of Communication: An Advantage in Cochlear Implantation.' Descourtieux, C., V. Groh, A. Rusterholtz, I. Simoulin, D. Busquet, *The International Journal of Paediatric Otorhinolaryngology*, 1999. 12.) Fleetwood and Metzger 2010 Cued Speech and Cued Language for Deaf and Hard of Hearing Children,' Carol J. LaSasso, Kelly Lamar Crain, Jacqueline Leybaert pages 53 – 66.

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