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Parents, teachers, and others who converse face to face with deaf children have essentially four methods for conveying English and other traditionally spoken languages visually: oral-aural methods, fingerspelling, manually coded English systems, and Cued Speech. Historically in the U.S., support for oral methods prevailed until dissatisfaction with the continued low reading levels of deaf students prompted many to revolt against oral English-based methods and advocate for the use of a signed language. The assumption of some who supported the use of a signed language versus spoken English was it is the language (i.e., English) instead of the communication
mode (i.e., speech) that presents special difficulty for deaf children, and that signed languages (i.e., American Sign Language) are learned more easily than traditionally spoken languages, including English. Some supported the use of signed vocabulary but felt that the signs should be conveyed in English word order via a manually coded English system. A number of systems of manually coded English were developed that incorporated signs borrowed from American Sign Language, the word order of English, and additional invented signs to convey morphological elements such as plurals and affixes. Proponents believed that these systems allowed students to develop English vocabulary and syntax. Examples of these systems included: Seeing Essential English or SEE I (Anthony, 1971), Signing Exact English or SEE II (Gustason, Pierzing, & Zawolkow, 1972), and Signed English (Bornstein, Saulnier, & Hamilton, 1973-1984). These systems have been in widespread use. However, reading levels of deaf students today are virtually the same as they were in the mid-1960s.

In 1964, Cued Speech was invented by Orin Cornett, a physicist by training, who was interested in visually conveying English clearly and completely to deaf and hard of hearing persons at the same linguistic level (i.e., phonemic) as it is conveyed to hearing individuals (Cornett & Daisey, 1994). Cued Speech addresses the problem inherent in oral-aural methods by fully specifying, or distinguishing between, the different phonemes of traditionally spoken languages. For example, the phonemes that are represented by the letters p, b, and m, pronounced by some as pub, bab and mub, are fully specified and easily distinguished for individuals who can hear, but are indistinguishable or insufficiently specified for those who do not. Thus people who rely on lipreading alone have no way of distinguishing words such as maybe and baby or may, pay, and bay.

Cued Speech utilizes a system of eight hand shapes and four hand placements near the mouth to distinguish the 40 or
so phonemes of English and other traditionally spoken languages. That is, Cued Speech conveys each phoneme visually as clearly and completely as it is conveyed via speech to those who can hear. Despite being adapted to more than 56 languages (Cornett & Daisey, 1994), Cued Speech has never been in widespread use with deaf children. It may be that the name, Cued Speech, conveys the false impression that the system is designed to develop speech instead of English and reading. It also may be that until recently there was a lack of theory and research to support its use as a method of communication with deaf students.

During the past decade, however, both theory and research findings have been published to support the use of Cued Speech. LaSasso & Metzger (1998), comparing the signing of English via manual codes to the cueing of English via Cued Speech, cited three advantages for hearing users of Cued Speech. Specifically, in comparison to manually coded English systems, Cued Speech more completely conveys English and other traditionally spoken languages, it requires less memory to become fluent, and it requires less cognitive energy from parents.

LaSasso and Metzger (1998) note that systems of manually coded English convey no phonemic information about English. They discuss the biological predisposition of children to learn a language and note that children everywhere in the world, whether their language is tonal or alphabetic, or whether its syntax is complex or simple, acquire that language at about the same rate if the children have 1) clear and complete access to the “continuous phoneme stream” and 2) consistent opportunities to interact with fluent users of the language during the preschool years. LaSasso and Metzger suggest that the purported failure of systems of manually coded English (Dragow & Paul, 1995) to impact more greatly on reading levels of deaf children is related to the limitations of these systems to convey the “continuous phoneme stream” of the English language.

The second advantage of Cued Speech
Cueing involves transliterating—coding a language rather than translating it. Signing a traditionally spoken language, at least for beginners, involves translating.

Cueing involves transliterating—coding a language rather than translating it. Signing a traditionally spoken language, at least for beginners, involves translating. Specifically, signs from American Sign Language must be retrieved and translated into English, and additional signs for prefixes or affixes must be added. In addition, translation decisions need to be made. For example, to convey the English sentence, “The shoe-fly beetle was eaten by the blue jay,” the signer needs to decide which of the 6,000 or so signs comes the closest to the shoe-fly beetle (BUG) and blue jay (BLUE + BIRD) or whether he or she should fingerspell the words. The need for decisions like these is a mental burden, which is one reason why some interpreting services send two interpreters on jobs that last longer than one hour.

Leybaert and her colleagues (Alegria, Dejean, Capouillez, & Leybaert, 1990; Alegria, Lechat, & Leybaert, 1990; Charlier, 1992; Leybaert, 1993; Leybaert & Alegria, 1993; Leybaert & Alegria, 1995; Leybaert & Charlier, 1996; Perier, Charlier, Hage, & Alegria, 1988) have demonstrated that deaf individuals who have been exposed to Cued Speech both at home and at school perform comparably to hearing peers on tasks of phonemic awareness, internal speech recoding, phonics, and spelling and perform generally better than their deaf counterparts from oral or signing backgrounds. In a recently published study (LaSasso, Crain, & Leybaert, 2005), the rhyming abilities of deaf college students from Cued Speech backgrounds were comparable to those of their hearing peers and better than those of deaf students who came from non-Cued Speech backgrounds.

Eden, Lansdale, Cappell, Crain, Zeffiro, and LaSasso (submitted for publication) report results of a study that incorporated functional magnetic
Cued Speech at Home and School

There are basically two types of applications of Cued Speech that parents and teachers might consider for deaf students. First, Cued Speech could be used as a tool in reading programs to develop phonics abilities of deaf students who already have some phonological knowledge of English. Phonics involves learning about the relationship between the phonemes, the smallest unit of speech that serves to distinguish a language, and graphemes, the letters of the alphabet. Teachers who cue the phonemes of English can more easily teach the phoneme-grapheme relationships to deaf children because Cued Speech fully distinguishes the phonemes visually.

The second application of Cued Speech is for English language development, which is critical for reading English text. In this application, deaf children are immersed in a cued English environment, preferably both at home and at school. The interactions between the deaf child and cueing family members are the same as in a family without a deaf child except that attention needs to be paid to whether the deaf child is looking when others resonance (fMRI) brain imaging techniques to learn about how deaf individuals from Cued Speech backgrounds process phonological information. In that study, participants were matched on a word reading task with hearing peers and asked to perform phoneme deletion tasks while in an fMRI scanner. Results of that study revealed that 1) the phonological abilities of Cued Speech users were comparable to their hearing peers, and 2) Cued Speech users use the same parts of the brain, including the so-called “auditory” cortex, to process phonological information as their hearing peers. This study provides fMRI evidence that deaf individuals acquire phonological information comparable to hearing peers. It also suggests that deaf students process phonological information in the same parts of the brain as hearing individuals.

Above: Mouthshapes accompany all handshapes and placements enabling Cued Speech users to lipread more easily. Reprinted with permission from Language Matters, Inc.