

Basics of Understanding Cued Speech

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- Past President, NCSA
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- Parent of a deaf native cuer
- NCSA Certified Instructor of Cued Speech
- Cued Language Transliterater, 11 years
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- BA in Journalism, University of MD
- MA in Jewish Studies, Touro College
- MBA – Empire College (expected 2016)



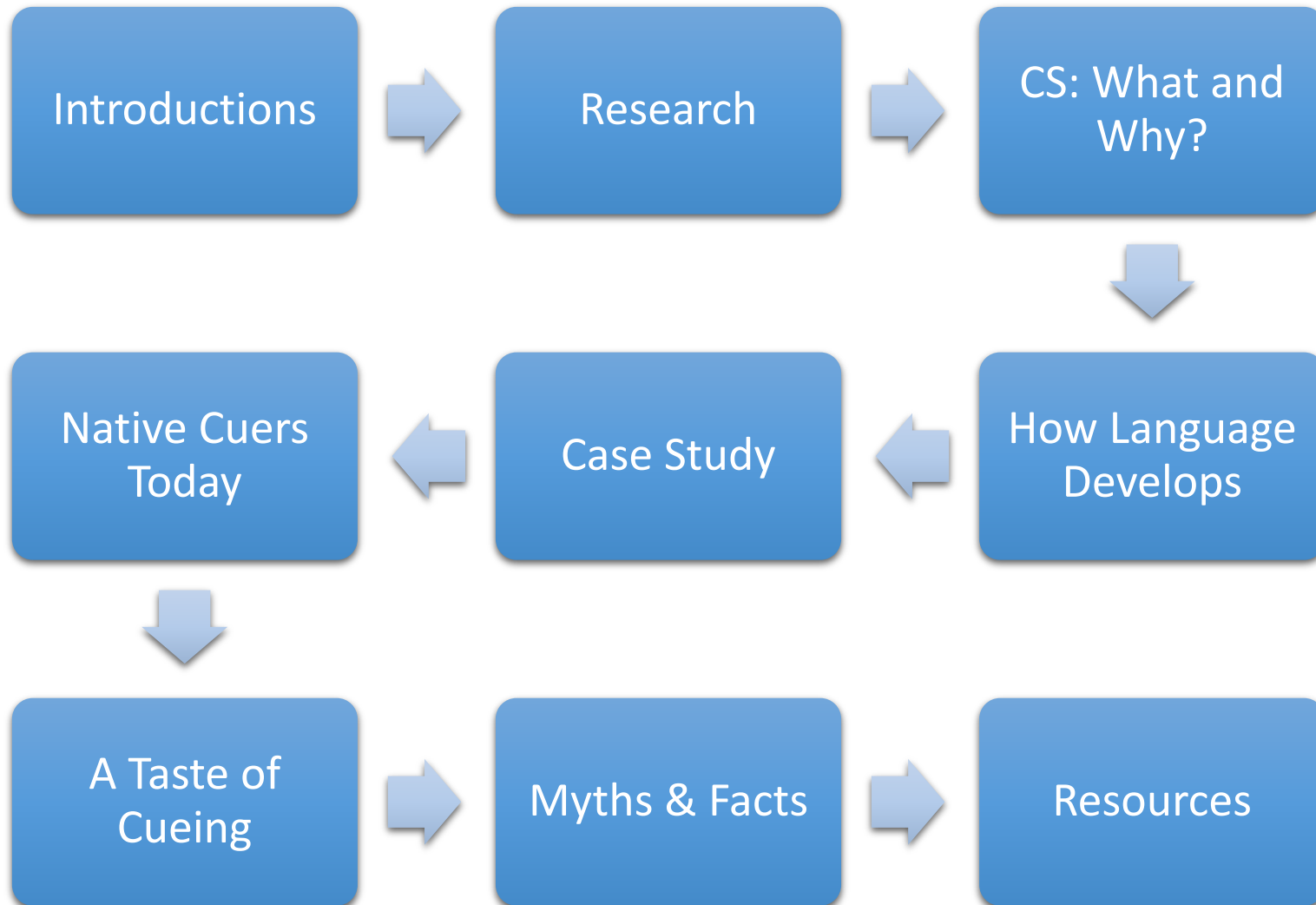
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Polly Earl received her Bachelor's degree in Speech Pathology and Audiology from Idaho State University in Pocatello, her Master's degree in Deaf Education from Texas Woman's University in Denton and her Doctorate in Special Education from the University of Cincinnati.

Dr. Earl has worked with children with special needs for 40 years as a Speech/Language Pathologist, Teacher of the Deaf, and as adjunct faculty at the University of Maine in Presque Isle where she teaches two classes, ASL and Language Development.

Dr. Earl is a Certified Instructor of Cued Speech and is the Chair of the 25-member NCSA Academic Advisory Council.

Agenda





Who We Are

Opening Discussion

Facts about Children who are Deaf or Hard of Hearing

01

About 90% born to hearing parents

02

Language acquisition depends on frequent, consistent, and accessible communication

Language Development (Marschark)

- Early interactions establish the foundation upon which language develops
- Sign language and spoken language should be considered complementary strategies for encouraging language development in deaf children
- Total Communication programs (utilizing simultaneous spoken and signed language) have not successfully improved literacy

Parents need... (Marschark)



to model fluent language to their children.



to understand the importance of reading with their young children.



to be taught to use visual strategies for enhancing communication.



RESEARCH SHOWS DEAF CHILDREN WHO ARE EXPOSED TO CUED SPEECH FROM AN EARLY AGE SHOW IMPRESSIVE PERFORMANCE IN A VARIETY OF READING SUB-SKILLS.



CUEING AT HOME AND AT SCHOOL MAXIMIZES THE POTENTIAL OF THE DEAF OR HARD OF HEARING CHILD.

**From Marschark's
Footnotes**

Is Reading Different for Individuals who are Deaf?

“For the purpose of learning to read, children must have an age-appropriate level of proficiency *in the same language that is to be read and written.*”

Mayer, C., & Trezek, B. J. (2014). Is reading different for deaf individuals? Reexamining the role of phonology. *American Annals of the Deaf*, 159(4), 359–371.

The Role of Phonology

“a core difficulty in learning to read manifests itself as a deficiency....in mastering phonological awareness skills”



Mayer, C., & Trezek, B. J. (2014). Is reading different for deaf individuals? Reexamining the role of phonology. *American Annals of the Deaf*, 159(4), 359–371.



The Role of Phonology

“Early exposure to a communication system that makes the phonological aspects of the language accessible (i.e., Cued Speech) results in age-appropriate skill development in the areas of phonological awareness, reading, and spelling, although not necessarily vocabulary.”

Mayer, C., & Trezek, B. J. (2014). Is reading different for deaf individuals? Reexamining the role of phonology. *American Annals of the Deaf*, 159(4), 359–371.

Is Reading Different for Deaf Individuals?

Mayer and Trezek conclude NO.

“phonology is an aspect of language acquisition....that provides the platform....for learning to read. It is these phonological skills that allow the reader to make the connections between “through-the-air” language and the print on the page....”

Mayer, C., & Trezek, B. J. (2014). Is reading different for deaf individuals? Reexamining the role of phonology. *American Annals of the Deaf*, 159(4), 359–371.

Why was Cued Speech Developed?

- Dr. R. Orin Cornett was surprised by poor reading levels of deaf students at Gallaudet in 1965.
 - Entering freshmen had an average of 4th grade reading level
 - After 5 years of English classes, an average student graduated with the same reading level
 - If deaf students can't read, how are they getting information?

The Path to CS

- Cornett became Vice President of Long Range Planning at Gallaudet, fall of 1965
 - 1/3 of time devoted to research on how to improve literacy skills
- Cornett sought to develop a way to visually convey the language used for reading and writing using one hand and the mouth





Cornett's Thoughts...

“If all the phonemes of speech looked clearly different from each other on the speaker’s mouth, just as they sound different from each other to normal ears, a profoundly deaf child could learn language through vision almost as easily as the normal child learns it from hearing.”

Cornett's Thoughts...

- English should be learned as a spoken language and used in daily communication with deaf child assuming their parents are hearing
- Information visible on mouth must be an indispensable component
- Supporting elements must be produced at the speed of speech. They should contain only the phonemic and syllabic information.



Cued Speech

- Must aid in speech and speech reading
- Must be a system that required minimal time to learn by hearing parents
- Must be feasible for very young, prelingually deaf children implemented solely through parents
- Must lift accuracy of communication



How Does Language Develop in Hearing Children?

Discussion

**By spring
of 1966
Cornett
had
developed
Cued
Speech.**



a phonemically based mode of communication used to make a traditionally spoken language visually accessible

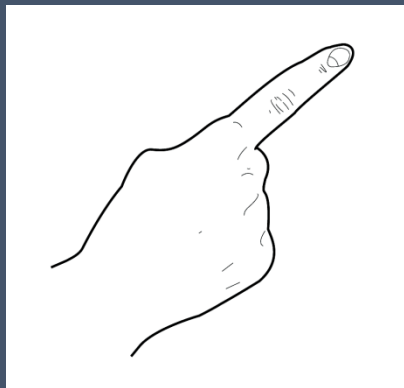


closed system of handshapes, placements, and mouth movements

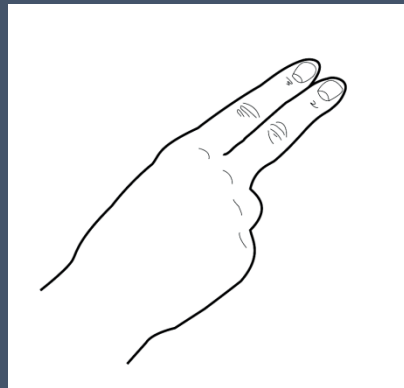
Cued Speech

- 44 Phonemes in English
- Disambiguates Lip reading
- Validates Auditory Skills
- Reinforces Speech Skills
- Makes Language clear through vision alone

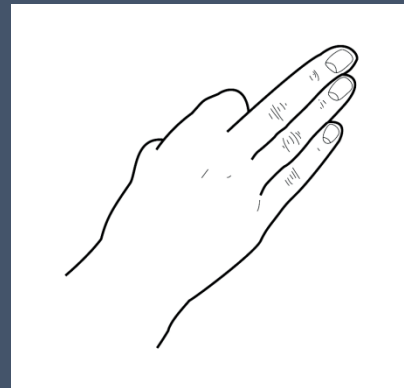
Consonant Handshapes



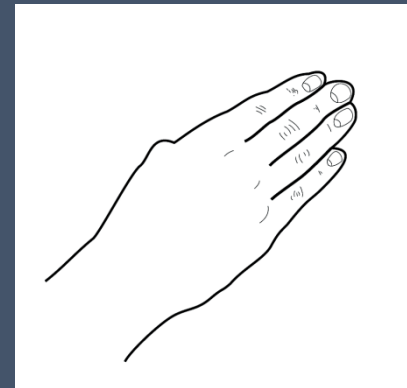
/p, d, zh/



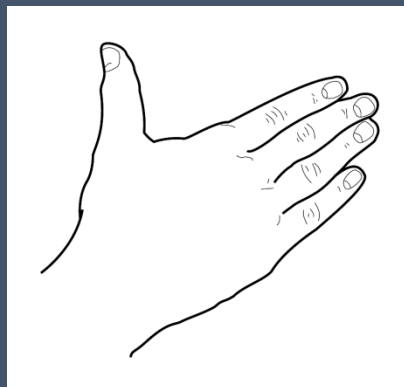
/k, v, TH, z/



/h, r, s/

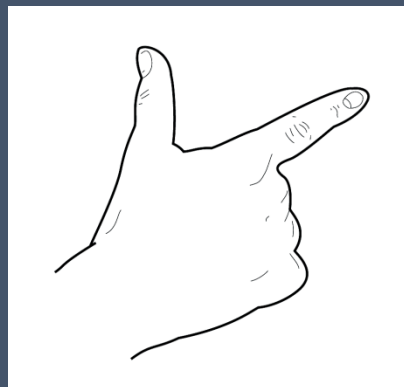


/b, n, wh/

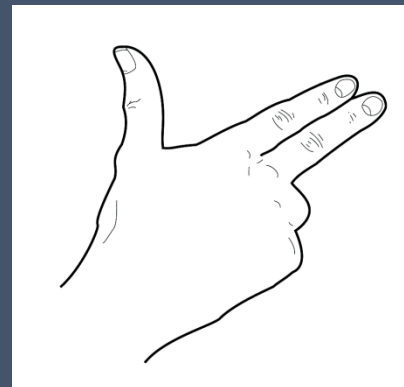


/m, t, f/

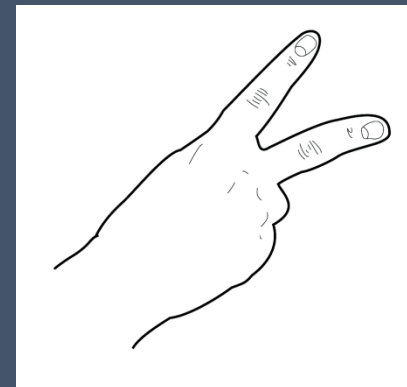
no consonant



/w, l, sh/

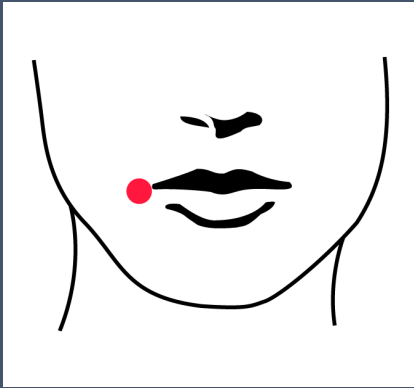


/j, g, th/

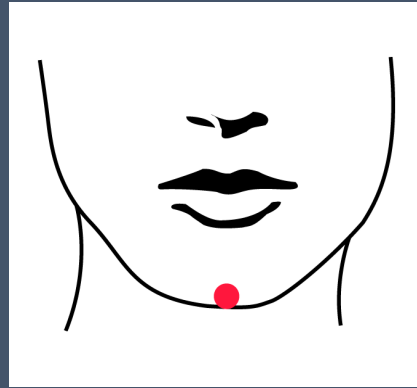


/y, ng, ch/

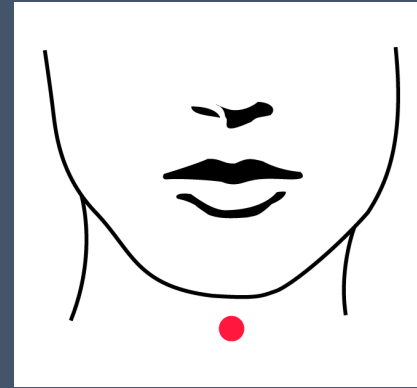
Vowel Placements/Movements



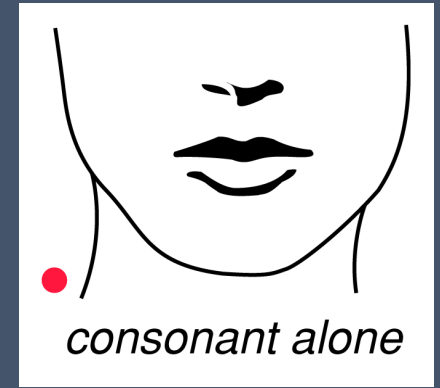
/ur, ee/



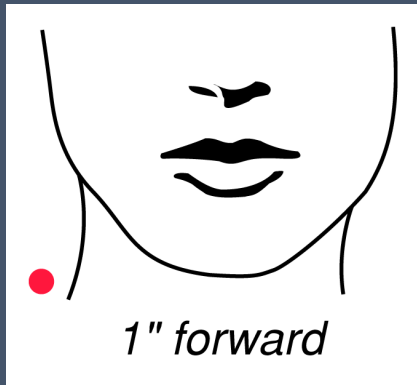
/ue, aw, e/



/i, a, oo/

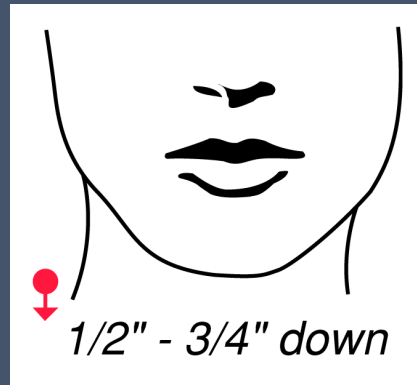


consonant alone



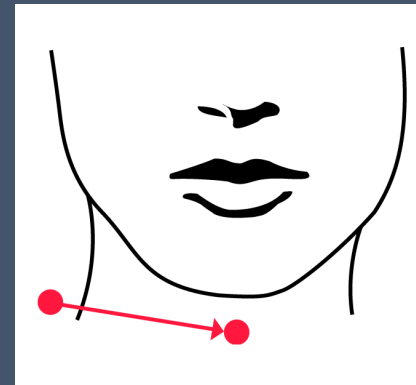
1" forward

/oe, ah/

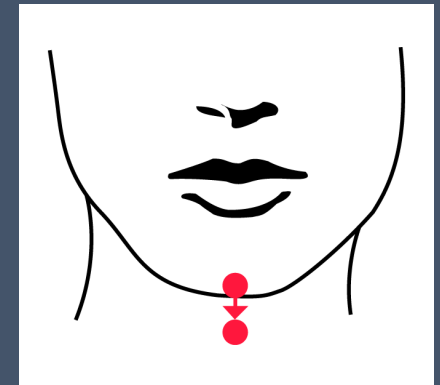


1/2" - 3/4" down

/uh/



/ou, ie/



/ay, oi/

Is Cued Speech a language?

No. Cued Speech is not a language.

- Visually conveys the phonemic stream of a traditionally spoken language – such as English
 - Sequence of consonants and vowels
- Can provide visual access in the language of the home for deaf children



English Vocabulary

- There are about 250,000 words in a standard unabridged English dictionary.
 - About 50-75,000 are considered to be basic words, and the rest are derivations and inflections of basic words.
 - The receptive vocabulary of the average 6-year-old hearing child is 25,000 words
 - There are an estimated 5,000 commonly used signs in ASL.
-
- Source: Doenges, K. S., & Kylo, K. L. (2001). *Cued English: A bridge to literacy for deaf and hard of hearing children*. Presentation, Cue Camp Minnesota, 2001, St. John's University, Collegeville, MN.

English and ASL

01

ASL is a separate language with its own syntax and sentence structure

02

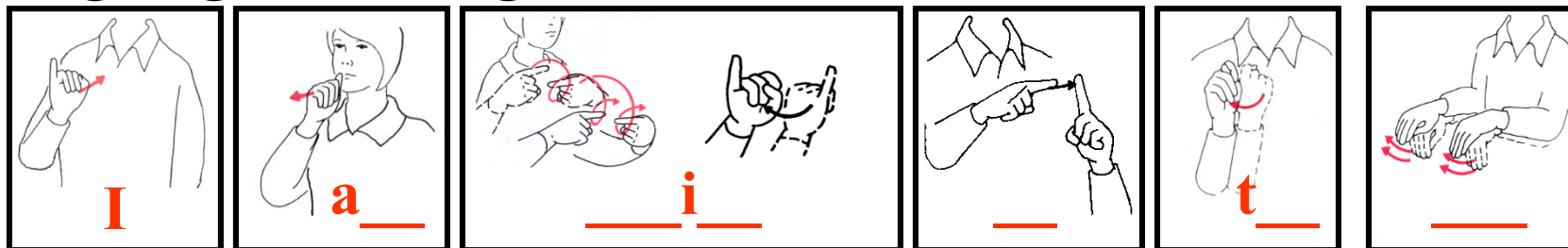
No written form of ASL

03

Cannot be used to convey English

I am going to the store

Signing Exact English:



Pidgin

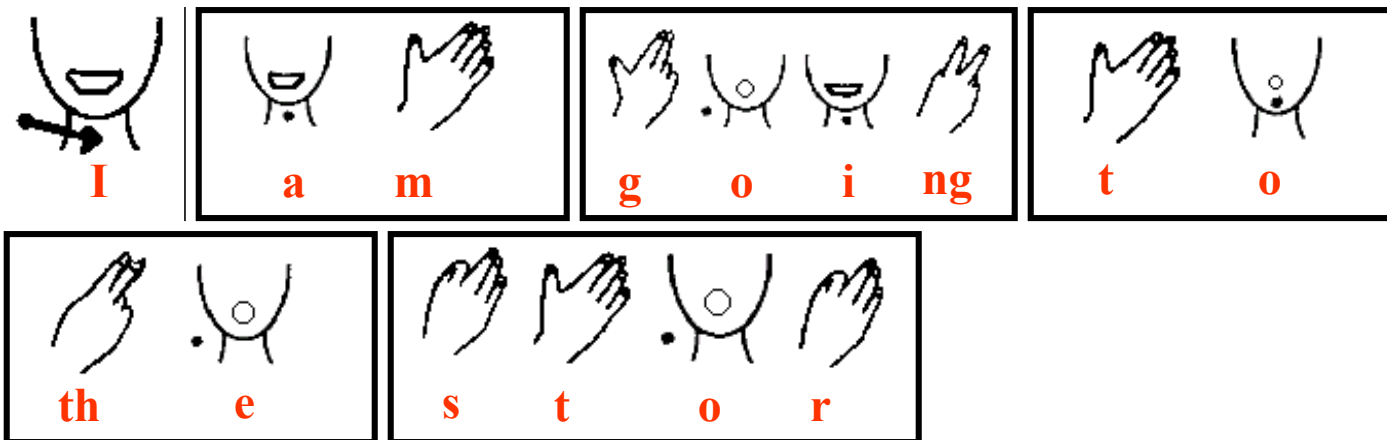


I am going to the store.

American Sign Language:



Cued English using the system of Cued Speech:



Elements of a Language

Phonology



Morphology



Semantics



Syntax



Pragmatics

What is a Phoneme?

Phonemes are the smallest unit of English (ie – consonants and vowels). Cueing allows the deaf child full access to the phonemic code of English through vision alone.

(Doenges, 2003. *How Cued English Impacts Learning to Read and Write English for Deaf/Hard of Hearing Students*)

English Semantics

Historically: deliberate,
direct instruction
pairing print with sign
and/or speechreadable
information. Print is
often the first
unambiguous visual
access to English that
the learner experiences.

With cueing:
precise English
vocabulary is
acquired through
natural interaction
with cuers of English
long before print is
introduced.
Because you can cue
any English word,
d/hh learners
acquire the same
rich knowledge that
hearing kids do.

WHAT LANGUAGES AND LANGUAGE MEDIUMS KEEP LINGUISTIC COMPONENTS INTACT?

<i>Linguistic Components</i>	Signed ASL	Tactile ASL	Written English	Spoken English	Signed English Systems	Cued English
<i>PHONOLOGY</i>	YES	YES	YES	YES	NO	YES
<i>MORPHOLOGY</i>	YES	YES	YES	YES	NO	YES
<i>SYNTAX</i>	YES	YES	YES	YES	YES?	YES
<i>SEMANTICS</i>	YES	YES	YES	YES	YES	YES
<i>PRAGMATICS</i>	YES	YES	YES	YES	YES	YES

Cue Kids Learn

Multiple
Languages

- Been adapted to over 67 languages and major dialects

Accents

Pronunciation

English Vocabulary



SPECIFICITY



PRONOUNS



SYNONYMS



**MULTIPLE
MEANING
WORDS**



**CONTRACTION
S**



MODALS



IDIOMS

Does Cued Speech require any speech?

No. Requires mouth movements associated with speech.

The mouth is half the message.

Shows the pronunciation of words.

- Chevy – /che, vee/ the actor Chevy Chase
- Chevy – /she, vee/ nickname for a Chevrolet

Does Cued Speech require any hearing?



No, otherwise transliterators would not be effective.



Can validate what is heard through assistive listening devices.



Can provide a visual model of target during auditory training

Hearing parents use Cued Speech to...

provide visual access to the language of the home.



learn to communicate visually in a relatively short period of time.

- Classes can teach the entire system in 12 – 15 hours
- Fluency develops within a few months to a year

Children of Deaf parents can use Cued Speech to ...

LEARN ENGLISH AS A
SECOND VISUAL LANGUAGE.



MANIPULATE THE PHONEMIC
STREAM OF ENGLISH TO
DEVELOP PHONEMIC
AWARENESS OF THE
LANGUAGE THEY WILL LEARN
TO READ AND WRITE.

Parents of children with other language learning disabilities can cue to...

Provide

visual and kinesthetic model of language.

Prompt

elicit an utterance.

Draw

Attention to the face and mouth for communication.

Demonstrate

Difference between incorrect & correct pronunciation/articulation.

Edited by: Carol LaSasso, Kelly
Lamar Crain, & Jacqueline
Leybaert Plural Publishing
(2010)

Cued Speech and Cued Language for Deaf and Hard of Hearing Children

Cued Speech and Cued Language for Deaf and Hard of Hearing Children

Carol J. LaSasso
Kelly Lamar Crain
Jacqueline Leybaert



PLURAL
PUBLISHING

Deaf cuers...



do not rely solely on interpretation



have an accurate phonological model of a spoken language



have English skills that match their hearing peers



learn English naturally



have a large vocabulary base can access



learn to read in the same manner as hearing children



learn foreign languages as easily as hearing children



General Education programs with fewer supports than other deaf or hard of hearing students.

Reading Achievement of Deaf Students

- Children who are profoundly deaf and use Cued Speech score at the same level for reading achievement as children with normal hearing levels.
- Carefully matched oral and total communication students scored significantly lower.

Wandel, Jean E. (1989) *Use of internal speech in reading by hearing-impaired students in oral, total communication, and Cued Speech programs*. New York: Teachers College, Columbia University, Doctoral Dissertation.

Phonological Awareness

In hearing children, research shows:

Phonological abilities are correlated with subsequent reading achievement

Link is causal between some phonological tasks and reading achievement



Cued Speech children have comparable phonological awareness skills.



Visual Speech in the head

- Deaf children with early exposure to CS had skills like those of hearing peers
- Rhyming, Memory, Reading, Spelling
- Deaf cueing pre-readers had better rhyming skills than hearing pre-readers

Leybaert & Charlier (1996).
Journal of Deaf Studies & Deaf Education, 1(4), 234-48. *The Effect of Cued Speech on Rhyming, Remembering, and Spelling.*

Rhyme Generation in Deaf Students

LaSasso et al. (2003)

- Hearing, Deaf cuers, and Deaf non-cuers (signing and oral) asked to generate rhymes for 54 words
- Cuers performed similarly to hearing peers (>90% correct total)

Journal of Deaf Studies & Deaf Education, 8(3), 250-270.

Rhyme generation in deaf students: The effect of exposure to Cued Speech

Breaking the Code: Unlocking the Cuerriculum



Research



Musgrove (1985)-CS helps hearing impaired children comprehend discourse



O. Perrier, Charlier, et al (1987) - CS enables deaf children to understand spoken language better than with lipreading alone.



H. Kaplan (1974) - A Doctoral Dissertation, University Of Maryland finds that CS significantly improved speechreading skills of prelingually deaf persons.



Charlier & Paulisson (1986) - CS improves the audition and does not divert auditory attention of deaf children



Cued Speech Aids Development of Listening and Spoken Language

- Cued Speech provides complete visual access to the phonemic base of the language.
- Cuers know the target sounds for words.
- Children can learn to listen to the language they already know.

Exposure to Cued Speech provided benefits pre- and post-implant as compared to other groups of children.

- Tested on awareness of sound and language development.

Osberger, M.(1997) *The Hearing Review.* , 4(10), 28-31.
Current issues in cochlear implants in children

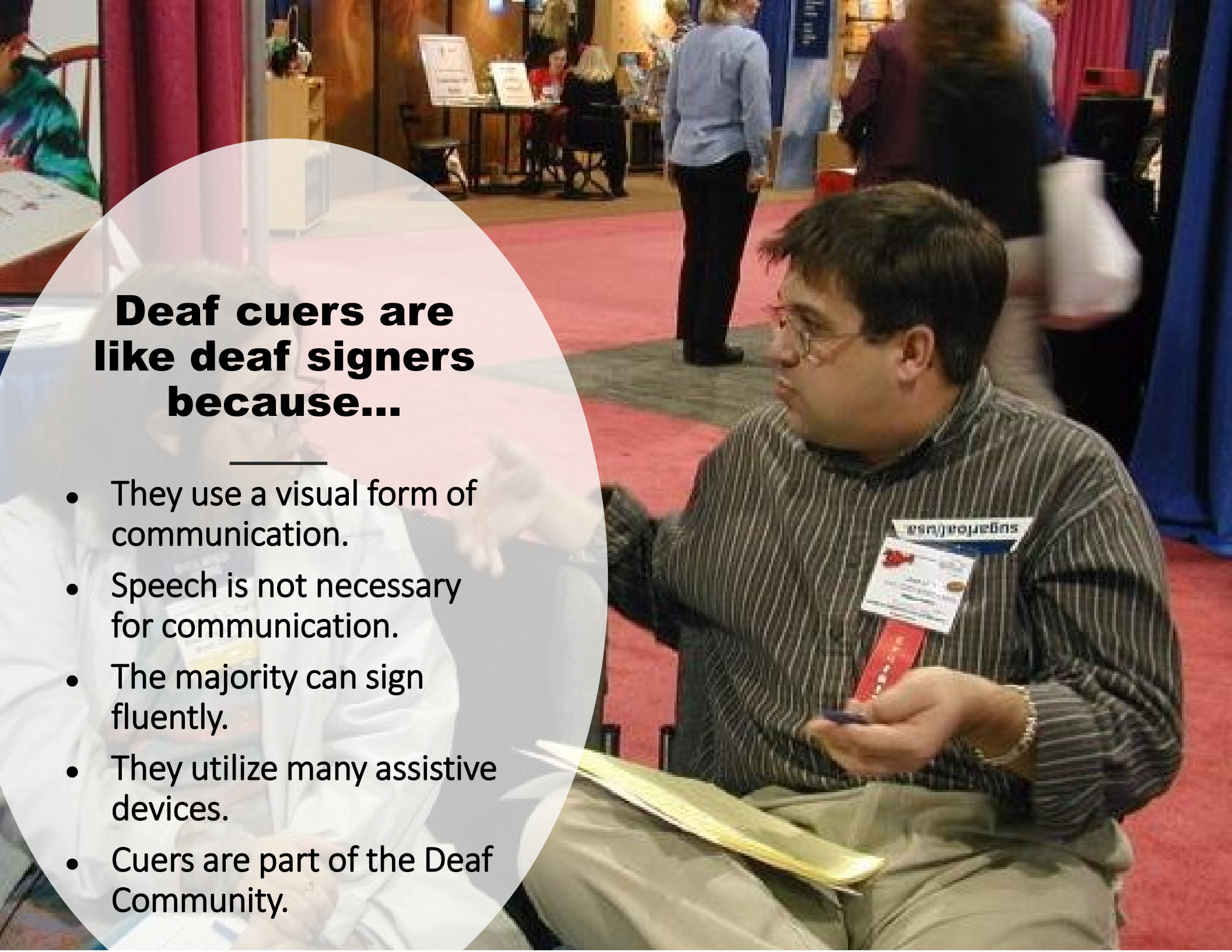
Cued Speech and Cochlear Implants: Powerful Partners

Cued Speech and Cochlear Implants: Powerful Partners

All children improved in speech production and spoken syntax after implantation (oral, signing, cueing)

Cued Speech group demonstrated more advanced syntax and language complexity than others.

Vieu, A. Et al .(1998) International Journal of Otorhinolaryngology, 44, 15-22.
Influence of communication mode on speech intelligibility and syntactic structure of sentences in profoundly hearing impaired French



Deaf cuers are like deaf signers because...

- They use a visual form of communication.
- Speech is not necessary for communication.
- The majority can sign fluently.
- They utilize many assistive devices.
- Cuers are part of the Deaf Community.

Cued English and ASL

- Having a strong language base allows for acquisition of second language

Necessary to learn language from a native model

Necessary to have consistent exposure to and manipulation of each language



CS In the Classroom

<https://youtu.be/QFStsUmrwUQ>

Videos



Case Study

Alexander Graham Bell Montessori School-AEHI in suburban Chicago




All deaf/hh students are mainstreamed within a challenging Montessori classroom



Related service providers include Teacher of the Deaf, Speech and Language Pathologist, and/or a Listening and Spoken Language Specialist

Case Study

Cued Speech is used throughout the entire building by all staff to provide 100% visual access to language



A total of 13 students in this study



Students have varying hearing levels, assistive technology, and some have additional learning factors

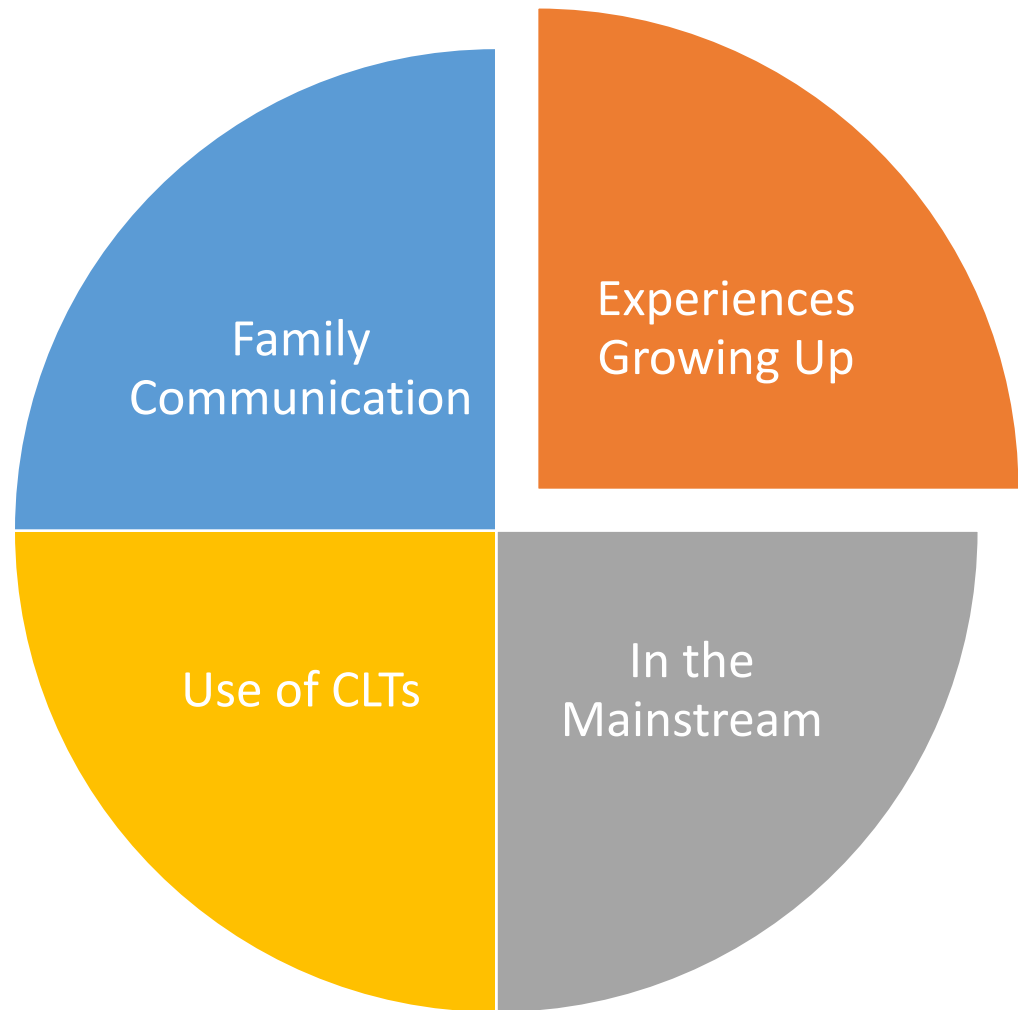
Case Study: Background

Stanford Achievement Test administered to all students at the elementary level annually

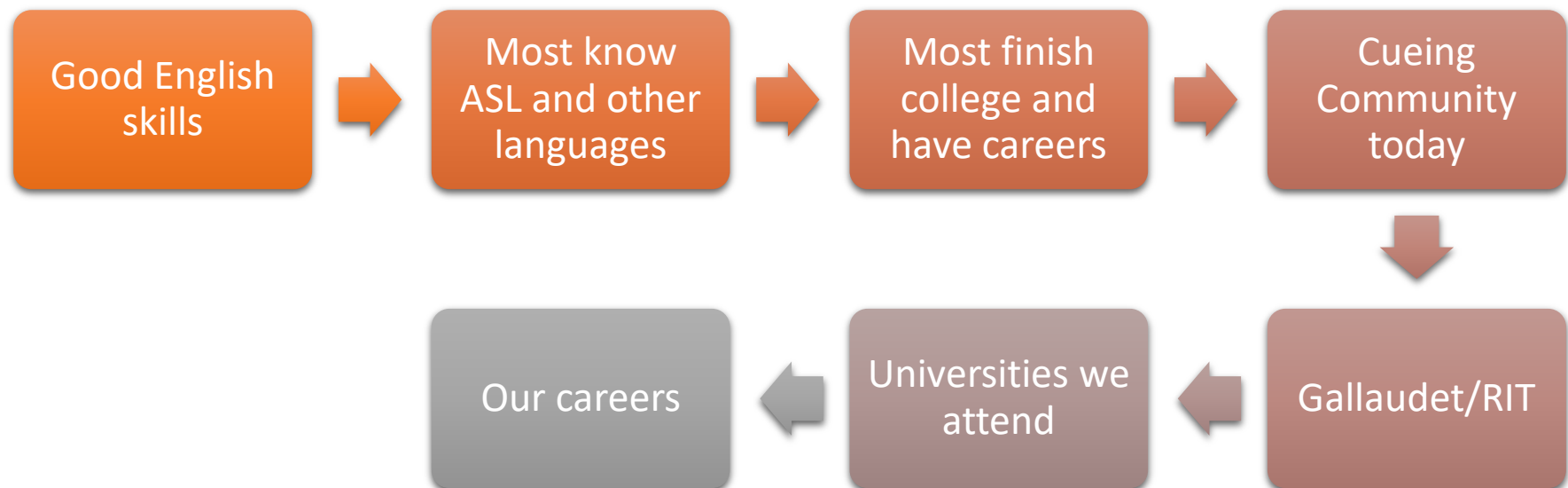


Compiled and graphed the initial test score and exit test score for the reading and language subtests as well as the complete battery test score

Native Cuers



Adult Cuers today



Ben Lachman



A dark blue, irregularly shaped graphic with a splatter effect, containing the text "Questions? Lunch". The graphic has a rough, hand-painted appearance with some lighter blue and white splatters around its edges. The text is centered within the dark blue area.

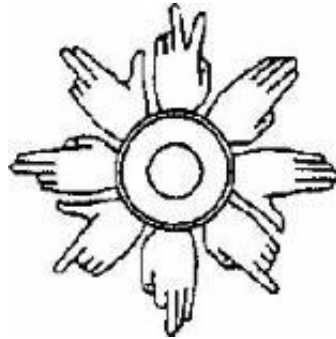
Questions?
Lunch



Summary of Morning

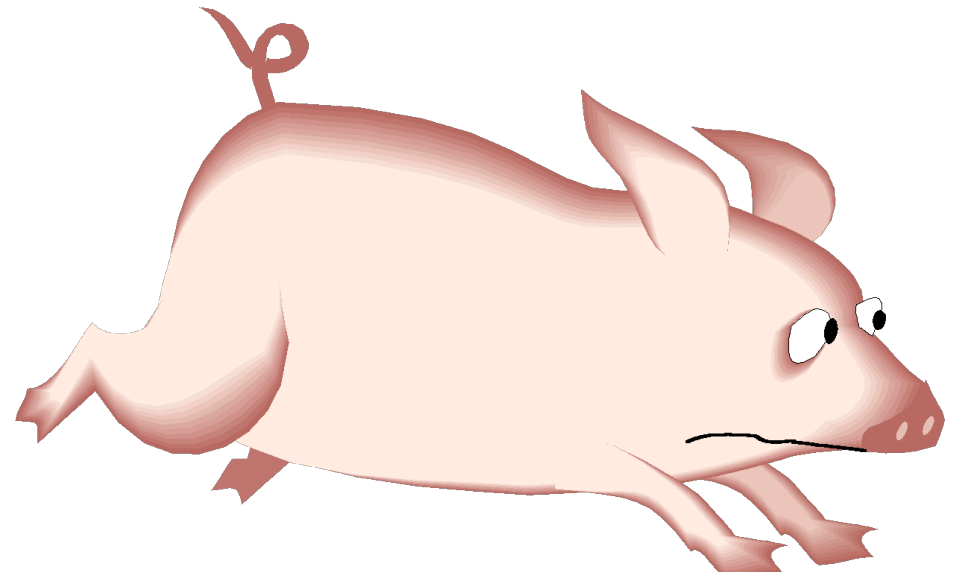
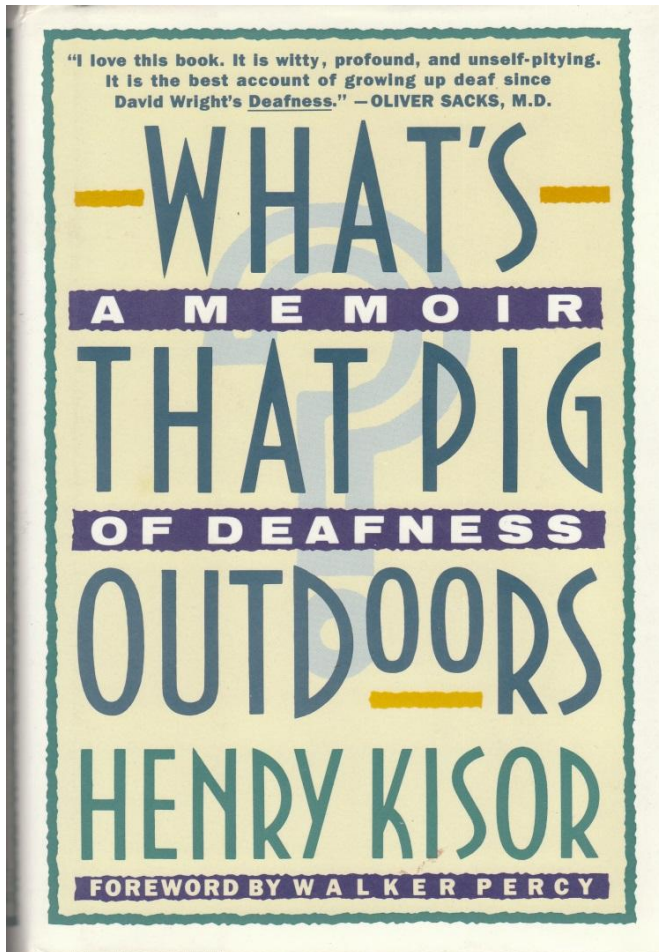
- Cued Speech:
 - provides visual access to traditionally spoken languages.
 - enables the development of a strong base language for communication and literacy.
 - facilitates listening and spoken language learning.
- Language of the home should be the first language of the child.
- Strong language base enables acquisition of additional languages.

Afternoon Session



A Taste of
Cueing

What's That Pig Outdoors?



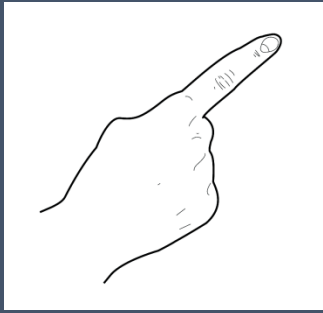
What's that
—
outdoors?
—

pig big

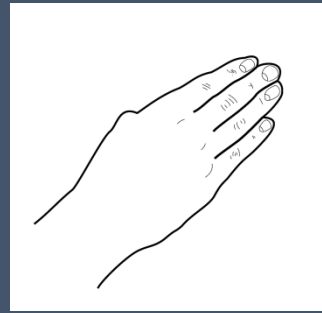
peg beg

pug bug

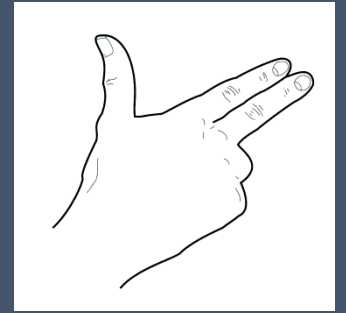
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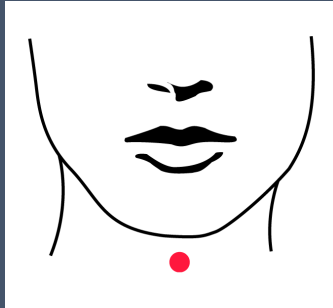
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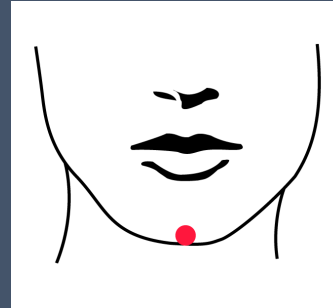
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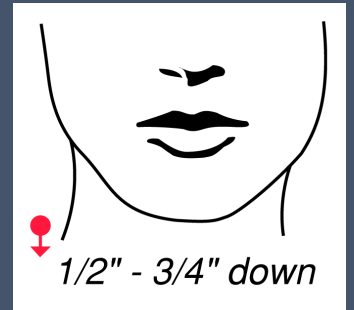
/i/



/e/



/uh/



pig

big

peg

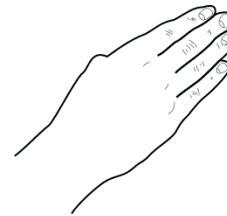
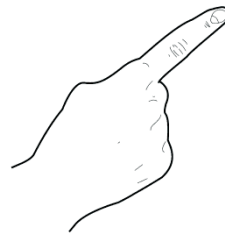
beg

pug

bug

Mapping Phonemes with Cued Speech

Hand →



Mouth ↓

Lips together

p

b

m

Tongue behind
teeth

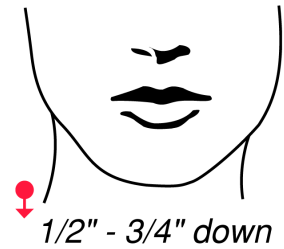
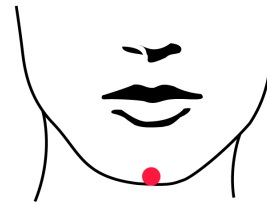
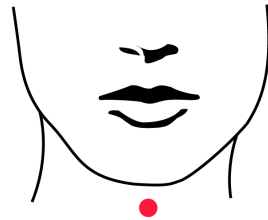
d

n

t

Mapping Phonemes with Cued Speech

Placement →



Mouth ↓

Flat

i

e

uh

Open

a

aw

Let's Learn to Cue

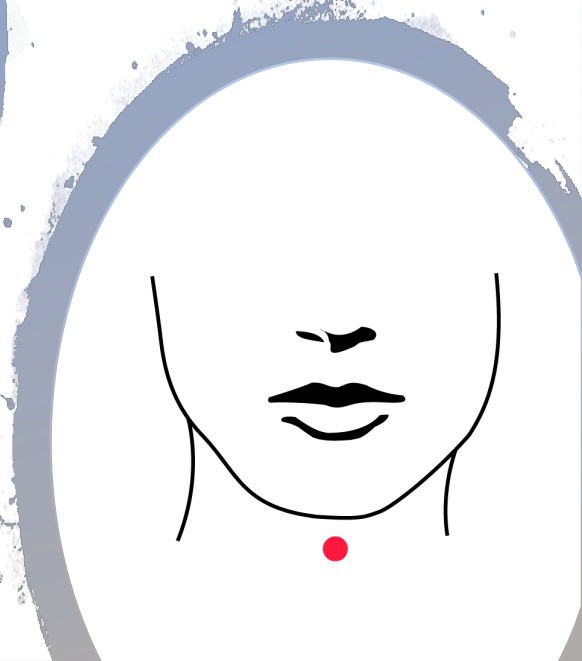
- Always cue in a consonant-vowel or vowel-consonant pair.
 - Place consonant handshape at vowel placement.
 - There is a handshape for “no consonant”.
 - There is a placement for “no vowel”.
- Synchronize mouth movements to cues.

Let's cue “mat”.

- Place handshape 5 at throat for /ma/
- Move handshape 5 to side for /t/



consonant alone



/m, f, t/ & no consonant



- Change first phoneme to show rhyming words:
 - *mat*
 - *fat*
 - *tat*
 - *at*
- What is different when you cue each of these words: *mat, fat, tat, at*?

Cued Speech Phoneme Song

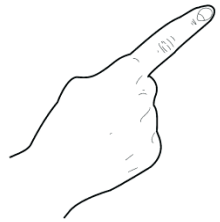




/h, s, r/

- Change first cue to handshape to 3 at throat and cue:
 - *hat*
 - *sat*
 - *rat*
- *Deaf Kids Can Rhyme!*

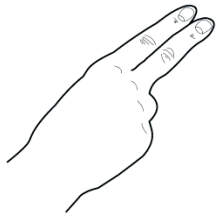
More words that rhyme with *mat...*



- Pat
- dat



- bat
- gnat



- cat
- vat
- that



- chat



**Let's cue
some
phrases**

- Pat Matt.
- Pat sat.
- Matt sat.
- That gnat sat.



Ed

- Place handshape 5 on chin for /e/
- Move to handshape 1 at side for /d/

Words that rhyme with *Ed*



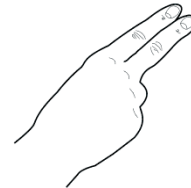
- Ted
- fed



- red
- head
- said



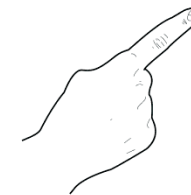
- Ned
- bed



- zed



- wed
- shed
- led



- dead

More Rhyming Phrases

Redhead

Ed fed Ted.

Ned shed.



Ee and Er

Place your hand with the longest extended finger at the corner of your mouth to make the Ee and Er sounds.

Me and Meet

- Place handshape 5 on mouth for Me
- Move handshape 5 to side for Meet

Sentences

- He eats meat.
- Her feet hurt.

Cue these words

- Team
- Term
- Sir
- Her
- Fur
- Feet
- Turf
- He
- Heat

The First Step to Literacy is Knowing the Language

- To learn and internalize a language, children must *experience*, i.e. be “bathed” in the language.
- They must *practice* and *use* the language *in conversation*, i.e. “face-to-face.”
- They must have: repetition, consistency, frequency and intensity
- Children do not learn a language effectively through print only.

Strategies for Communication

- Use appropriate techniques to get child's attention before cueing.
- Make sure your hand and mouth are visible.
- Repeat, rephrase, and check for comprehension.
- Continually raise expectations for language (receptive and expressive).

Myth: Cued Speech = Speech

Fact: Cued Speech = Phonemes



Does not require speech or voice to communicate clearly



Mouth movements correlate to movements used for speech



Hearing cuers often think in terms of speech sounds (phonemes)



Deaf cuers think in terms of cued phonemes

Myth: You can't cue to babies.

Fact: You CAN cue to babies.

- Research shows you can cue, talk, and/or sign to babies.
- Cueing as early as possible maximizes opportunity for strong language development.



Myth: If you cue, a child won't learn to listen.

Fact: Cued Speech enables kids to learn to listen.

- Listening can accompany watching.
- Cuers have a visual model of spoken language.
- Able to anticipate number of sounds to listen for in order to match the visual model.
- Can fill in the blanks misheard in sentences because of strong language base.



Myth: If you cue, a child won't speak.

Fact: Cued Speech gives kids something to say.

- Cued Speech can facilitate/complement speech therapy.
- Cuers with minimal hearing require therapy to learn how to speak.
- Cuers have an internal model of the pronunciation of words.



Suggestions for Parents New to Cueing



Cue as often as possible



Read/cue books



Play rhyming games & sing songs



Focus on key phrases and words that you emphasize



Use carrier phrases

It's time to...

Let's go to

...

Learning to Cue

- Face to face instruction is best.
- Camps are awesome for community and skill building.
 - Camp Cheerio, NC (May)
 - Cue Camp Mechuwana (August)
 - Camp Chi-Cue-Go, IL (July)
 - Cue Camp Virginia, VA (September)
 - Check online for current schedule of camps

www.cuedspeech.org/cue-camps



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Cueing Support

National Cued Speech Association

- www.cuedspeech.org
- info@cuedspeech.org
- 800-459-3529
- Free first-year membership to parents
- Packets of information sent to parents upon request
- Newsletter, *On Cue*
- Network of parent/professional support

