Cued Speech as a Framework for Visual Access to Spoken Language

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About the Presenters

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Participants will...

- learn about the Cued Speech framework for providing visual access to spoken languages.
- review the impact of hearing loss on the areas of spoken language development.
- consider language separation in context of American Sign Language and Cued American English.
- list at least three specific strategies to support language development and literacy development in children with hearing loss.
- will identify resources and information to provide on Cued Speech and cued language services.

A Seat at the Table? - EI SNAPSHOT Report

- 10% population growth since 2008 (Gallaudet report, 2008 - cite via GAO)
- Significant disparity in quality of information on Cued Speech compared to other communication choices.

QUALITY OF INFORMATION

Chart 4. Family Report of Quality of Information Provided About Communication Choices Upon Diagnosis

	Percentage of Families Reporting Quality of Information			
Communication Modality	Excellent	Good	Fair	Poor
Listening and Spoken Language	46%	30%	10%	14%
Sign Language	38%	29%	17%	17%
Total Communication	36%	28%	15%	21%
Cued Speech	22%	21%	25%	32%

Cued Speech - 22% excellent, 32% Poor

12% of families reported using mostly Cued Speech

Chart 5. Family Report of Child's Primary Communication Modality

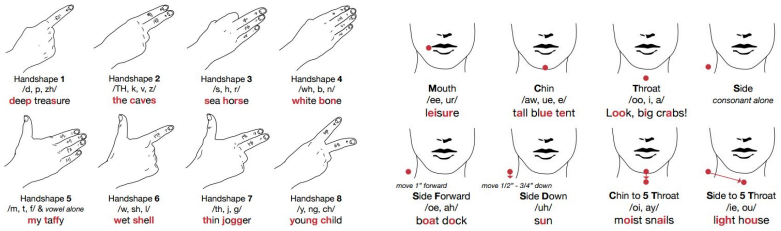
Communication Modality	Percentage of Families
Listening and Spoken Language only	49%
Sign Language only	3%
Mostly Listening and Spoken Language (supplemented by sign language, cued speech, or other)	17%
Mostly Sign Language (supplemented by listening and spoken language, cued speech, or other)	3%
Mostly Cued Speech (supplemented by listening and spoken language, or other)	12%
Equal Parts Sign Language and Listening and Spoken Language (including total communication)	14%
Other	1%

What does Visual Access to Spoken Language look like?

www.youtube.com/cuecognatio

Cued Speech: A Visual Mode of Communication

The **combination** of handshapes, hand placements, and mouth shapes **creates** a **complete visual language** based on the **phonemes** of a given **spoken language**

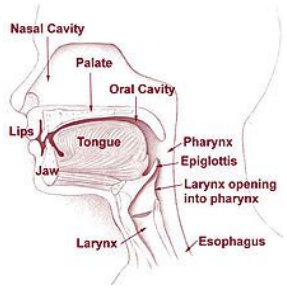


Theory of Cued Speech

- "What looks the same on the mouth must look different on the hands" - Dr. R. Orin Cornett
- Show spoken language **visually** with **accuracy** in **real time**
- Up to 3 or 4 phonemes associated with each handshape or hand placement (easier for memory retention)

- Components of speech:
  - Mouth shape
  - Voice/Air
  - Tongue Placement
- What's the difference?
  - /b/ and /p/?
  - /s/ and /z/?
  - /ee/ and /i/

Spoken Language Construct/Phonology



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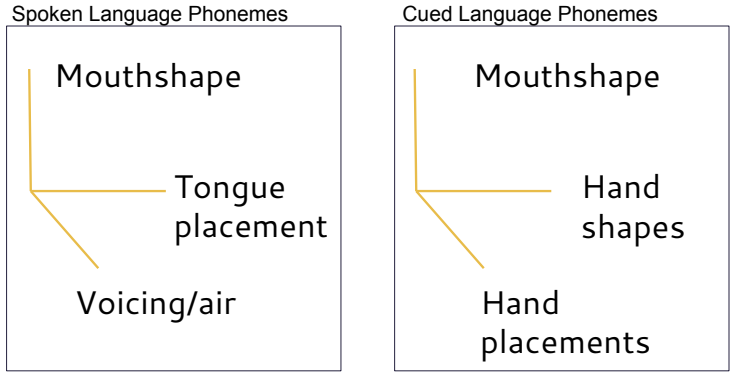
3D Models of Speech and CS



Consonant-Vowel Pairs

- Spoken languages are traditionally expressed in syllables or consonant-vowel pairs

Cat	Caterpiller
/k a t/	/k a t uh p l l er/
/ka t/	/ka tuh pi ler/
/CV C/	/CV CV CV CV/

Decoding and Recoding

- Retrain your brain: decode **phonemically**
  - Disregard spelling, focus on **articulation**
- With consistent practice, **expressive cueing** can become **more natural**
- Receptive cueing may take more effort depending on the person

Terminology in Cued Speech

Cued Speech - the official name for the visual communication system that includes all cued languages

cued language - refers to the visual languages conveyed through Cued Speech

cued English - not specific enough (which English?)

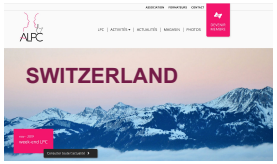
Terminology in Cued Speech

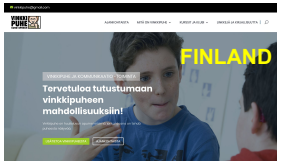
Cued American English - specific cued language.

cuem - a cue that includes both handshape and hand placement

cued language transliterator - provides access to spoken language through cueing (CLTs for short)

Cued Languages Around the World





http://www.cuedspeech.org/resources/cued-speech-international

Download Cue Charts at www.cuedspeech.org

American English Cue Chart [PDF] - V1 »
American English Cue Chart [PDF] - V2 »
American English Cue Chart with IPA Symbols [PDF] - V2 »
American English Cue Chart with IPA Symbols [PDF] - V2 »
Amharic Cue Chart [PDF] »
Arabic Cue Chart [PDF] »
British-English Cue Chart [PDF] »
British-English (Dipthongs) [PDF] »
Farsi (Persian) Cue Chart [PDF] »
Farsi (Persian) Western Script [PDF] »
Finnish Cue Chart [PDF] »
German Cue Chart [PDF] »
Hausa Cue Chart [PDF] »
Idoma Cue Chart - Nigeria [PDF] »
Korean Cue Chart - v3.5 [PDF] »
Marathi Cue Chart [PDF] »
Modern Hebrew Cue Chart [PDF] »
Punjabi Lahore Region [PDF] »
Somali Cue Chart [PDF] »
Spanish Cue Chart [PDF] »
Spanish Lessons (in Spanish) [DOC] »
Spanish Supplement Lessons [PDF] »
Swiss Cue Chart [PDF] »
Urdu Cue Chart [PDF] »
Yoroba Nigerian Cue Chart [PDF] »

http://www.cuedspeech.org/cued-speech/international-cue-charts

Benefits of Cued Speech

- Language immersion and literacy development
- Ancillary benefits: aural rehabilitation, speech articulation, social communication, foreign language learning, etc
- Relatively easy to learn and gain fluency

Using Cued Speech for Access

- Build Capacity for Cued Language Services
  - Rural programs versus metro public schools
- Access at Home
  - Some parents consistently cue at home while others use it sparingly.

Using Cued Speech for Access

- Access at School
  - Direct instruction in special education versus direct access to general education (CLTs)
- Family versus Educational Team Perspective
  - Everyone involved needs to provide consistent access in the child's modality or modalities.

How does hearing loss impact spoken language development?

The 5 Domains of Language

FORM: Phonology

FORM: Morphology

FORM: Syntax

CONTENT: Semantics

USE: Pragmatics

HOW DO WE CREATE THE MESSAGE?

WHAT DOES THE MESSAGE ENTAIL?

WHAT DO WE INTEND WITH OUR MESSAGE?

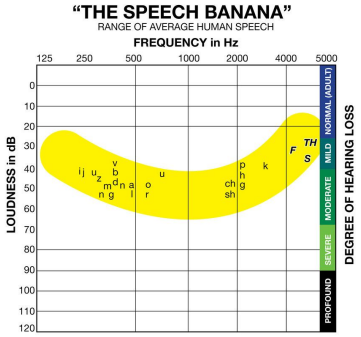
Factors to Consider for Spoken Language/Literacy

- 90% born to hearing parents - only 10% hereditary (Moores, 1987)
- Critical years for language development: birth to age 5 (Krashen, 1973)
- What kind of issues do we often see in the "reading to learn" process for D/HH children?

Factors to Consider for Spoken Language/Literacy

- Perspectives on acquiring new languages through assessments
  - 1-3 years = Basic Interpersonal Communication Skills (BICS)
  - 5-7 = Cognitive Academic Language Proficiency (CALP) (Cummins, 2008)
- Access to spoken language a critical factor in outcomes related to communication and literacy

Auditory Skills/Speech Comprehension



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Factors to consider:

- Audiogram profile
- Date/types of interventions
- Family dynamics
- Support systems
- Additional challenges TBD

Getting the Full Picture: Audiological Perspectives

- Medical/Technological interventions not always effective due to additional factors (Berlin, 2012)
- Research in Europe reinforces the idea of Cued Speech as an effective way to enhance speech perception for individuals with cochlear implants (Leybaert, Colin, & Hage 2010)

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DISCLAIMER: SPEECH VS LANGUAGE

- Can develop meta awareness of spoken language and still have atypical speech articulation
- Speech dependent on quality of auditory input
- Cued Speech = visual model of spoken language
- Visual Phonics = articulation mechanics/phonetics

How do we maintain Language Separation Between ASL & English?

Research Highlights re: ASL & English access

- Deaf, sign-only students' English literacy skills have significantly lagged behind their hearing peers for several decades.
- There are situations where **access to the *form*** of the source language is crucial. (foreign language analogy)

Research Highlights re: ASL & English access

- Interpreters working in educational settings are ***grappling with how*** to provide **access to phonological** information in **mainstream classes**.
- The strategies educational interpreters use to provide access to phonological information ***may be detrimental*** to the students' outcomes.

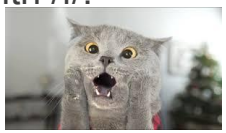
Research Highlights re: ASL & English access

- The use of systems providing ***accurate* visual representations** of the phonology of a spoken language can have a ***positive impact*** on English acquisition, development & literacy.

The Challenge

Circle the pictures that start with /f/:



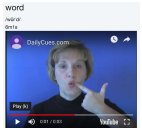



Google Images

Visual Phonology

American Sign Language	**Cued American English**
Handshape	Mouth shapes
Palm orientation	Handshapes
Location	Hand placements
Movement	Non-manual markers
Non-manual markers	

www.lifeprint.com



www.dailycues.com

Educational Interpreters + Literacy

- **Access** is a **critical factor** in students' **educational outcomes**
- **Spectrum** of "Access":
  - ASL
  - Cued Speech
  - MCE systems (SEE, CASE)
  - Visual Phonics

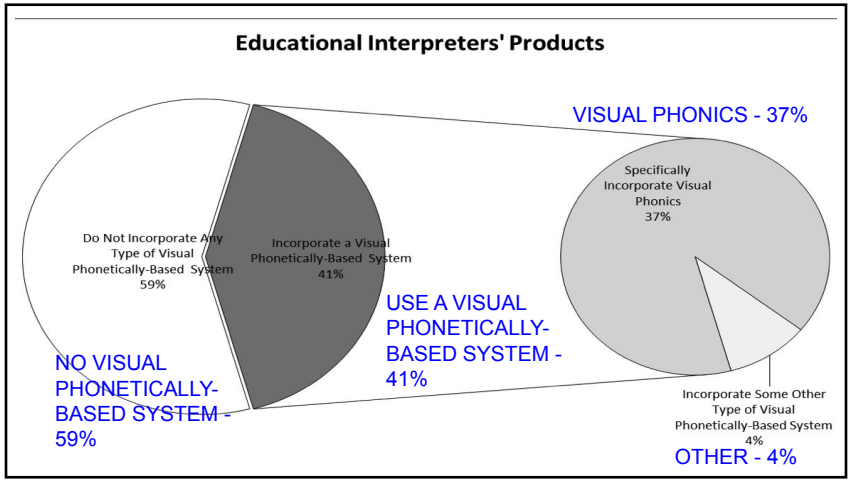
Educational Interpreters + Literacy

- Research on Cued Speech indicates
  - Cued languages can facilitate **typical** spoken language/literacy development
  - Native cuers are **highly flexible communicators** and places a strong value on literacy skills.

Educational Interpreters + Literacy

- **Interpreters' perspectives** on **Visual Phonics** indicates
  - **importance of phonics** in emergent literacy skills (learning to read),
  - **lack of strong agreement** on vocabulary, reading comprehension, test performance

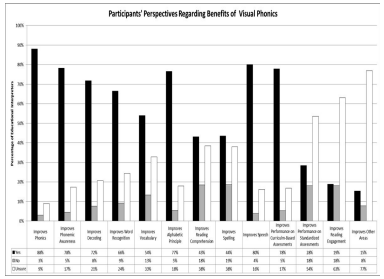
A Quantitative Look: Educational Interpreters' Perspectives



Interpreters' Perspectives on Benefits of Visual Phonics

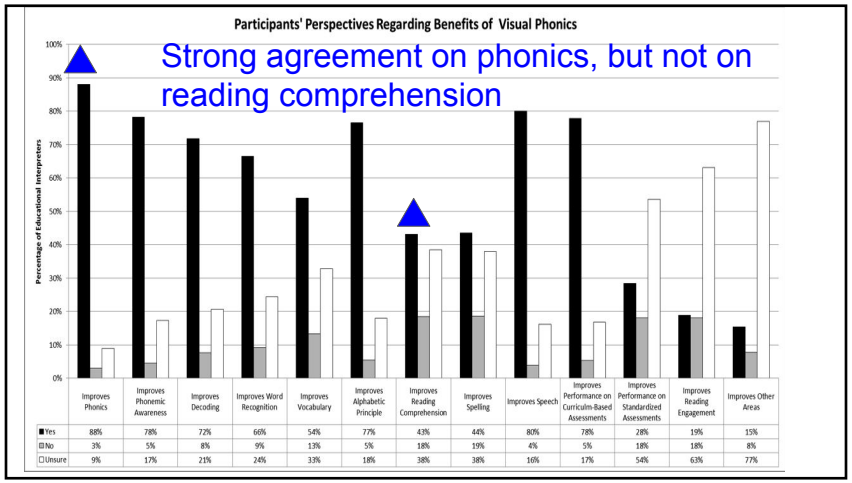
KEY

BLACK - YES
GREY - NO
White - Unsure

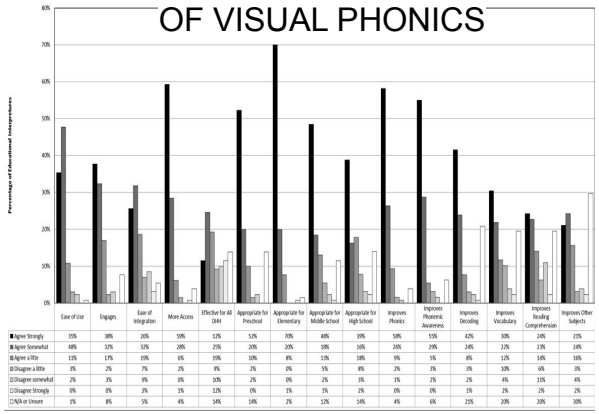


Improves….?

- Phonics
- Phonemic Awareness
- Decoding
- Word Recognition
- Vocabulary
- Alphabetic Principle
- Reading Comprehension
- Spelling
- Speech
- Performance on Curriculum-based Assessments
- Performance on Standardized Assessments
- Reading Engagement
- Other areas



PERCEPTIONS ABOUT UTILIZATION OF VISUAL PHONICS



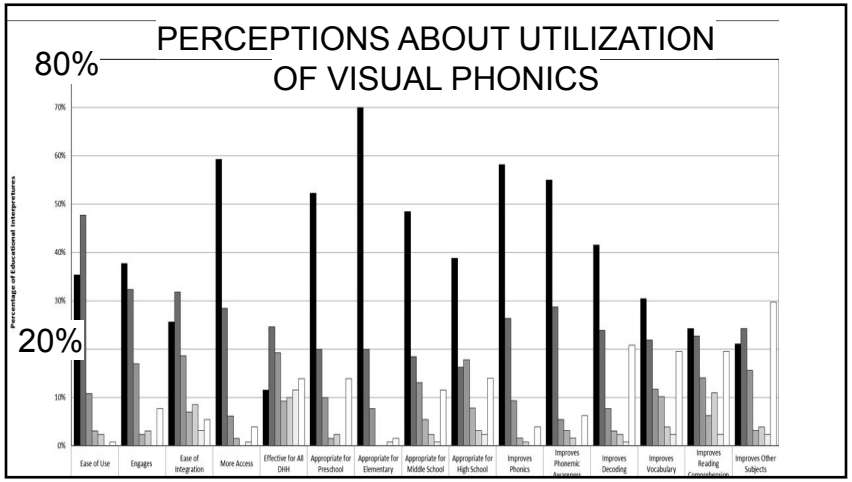
PERCEPTIONS ABOUT UTILIZATION OF VISUAL PHONICS

	Ease of Use	Engages	Ease of Integration	More Access	Effective for All DHH	Appropriate for Preschool	Appropriate for Elementary
Agree Strongly	35%	38%	26%	59%	12%	52%	70%
Agree Somewhat	48%	32%	32%	28%	25%	20%	20%
Agree a litte	11%	17%	19%	6%	19%	10%	8%
Disagree a little	3%	2%	7%	2%	9%	2%	0%
Disagree somewhat	2%	3%	9%	0%	10%	2%	0%
Disagree Strongly	0%	0%	3%	1%	12%	0%	1%
N/A or Unsure	1%	8%	5%	4%	14%	14%	2%

PERCEPTIONS ABOUT UTILIZATION OF VISUAL PHONICS

Appropriate for Middle School	Appropriate for High School	Improves Phonics	Improves Phonemic Awareness	Improves Decoding	Improves Vocabulary	Improves Reading Comprehension	Improves Other Subjects
48%	39%	58%	55%	42%	30%	24%	21%
18%	16%	26%	29%	24%	22%	23%	24%
13%	18%	9%	5%	8%	12%	14%	16%
5%	8%	2%	3%	3%	10%	6%	3%
2%	3%	1%	2%	2%	4%	11%	4%
1%	2%	0%	0%	1%	2%	2%	2%
12%	14%	4%	6%	21%	20%	20%	30%

PERCEPTIONS ABOUT UTILIZATION OF VISUAL PHONICS



Takeaways: Educational Interpreters

- Responses varied = interpreters don't have uniform approach to conveying English phonology.
- In many cases, interpreters are under false impression they are addressing the issue.

Takeaways: Educational Interpreters

- We need more **education and research on:**
  - Interpreters' **roles & skills** in education
  - **equitable access** to source languages
  - **best practices and strategies** for supporting language and literacy development in DHH children.

Programs Using a New Approach:
Complete Bilingualism

- Illinois School for the Deaf
  - Started with voluntary pilot program 2010 at the high school level
    - ASL & Cued English - IEP team decision
  - **Literacy Growth rates**: Time span = one year
    - Sign-only group: 2 months
    - ASL & CAE: one year, some up to two years
  - (www.illinoisdeaf.org)

Programs Using a New Approach:
Complete Bilingualism

- United Kingdom
  - British Sign Language (BSL) & Cued American English **for English as a foreign language**
  - Even late and limited exposure to CAE for deaf signing pupils demonstrated significant improvements in English literacy.
  - (Calder & Worsfold, 2014)

Programs Using a New Approach:
Complete Bilingualism

- Foreign Language Analogy
- Minnesota Public Schools Intermediate District #917 Content delivery = IEP team decision
  - Program-wide since 1996
  - Literacy gains in one year in grade equivalence
- NAT'L D/HH= **0.2** VS District 917=**1.0**

- Writing samples included in (Kyllo, 2010)

Benefits of a Complete Bilingual Approach

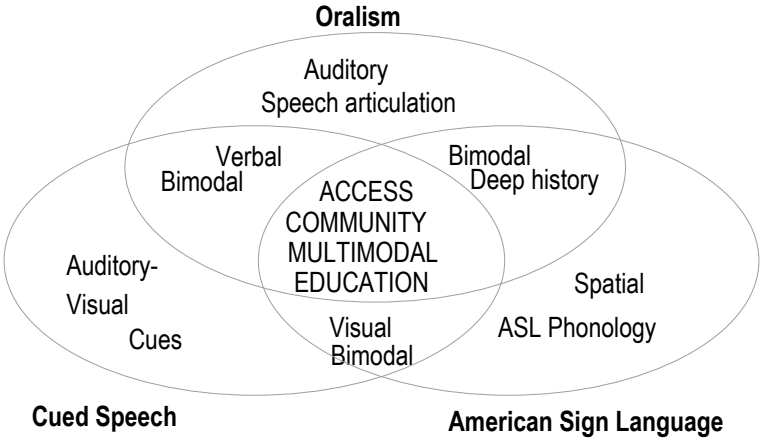
- **Literacy Growth rates**: greatly surpasses use of sign alone
- **Home language:** connection with family, prevents feelings of isolation, promotes feelings of inclusion (BICS, CALP)
- **Increased intellect and cognitive abilities**: knowing more than one language stimulates more areas of the brain

Benefits of a Complete Bilingual Approach

- **Cultural Identity**: singular or multiple
  - Home culture – intertwined with home language
  - Deaf culture – intertwined with ASL
  - Majority-language Culture – intertwined with English

Cue Culture and Deaf Culture

- Cue Culture is interconnected with many communities and Deaf Culture
- Some native cuers identify strongly with Deaf culture while others don't
- Cuers are still seeking widespread acceptance within Deaf Culture



Strategies for Spoken Language

Consider what we already do as role models of spoken language…

JUST CUE IT!

Phonology and Phonemic Awareness

- As a beginner, focus on accuracy instead of speed
- Nursery rhymes and songs are easy ways to show different phonemes and patterns.
- Consider literacy time as “cueing time” to reinforce multiple targets within lessons or at home.

Phonology and Phonemic Awareness

- Reinforce the Alphabetic Principle - “the letter A makes the sound /a/”
- Cue other types of text found in the environment (street signs)
- Reinforce the idea that we can “sound out” what we read or spell.

Morphology and Semantics

- As a beginner, cue specific words for emphasis.
- Draw attention to difference in endings -
  - ex: “s” - /s/ vs /z/
- Reinforce vocabulary words within text.
- Expand on topics in books by relating to personal experiences.
- Ask questions that check for vocabulary retention, use of correct syntax, and comprehension.

Syntax + Pragmatics

- Work towards cueing at a conversational level to show complex language.
- Use prosody to reinforce pragmatics (non-manual markers, facial expressions)
- Ask questions in different ways and model correct syntax/grammar as needed.

Resources

Cued Speech and Cued Language Resources

- National Cued Speech Association
  www.cuedspeech.org
  - Multiple state-level chapters and affiliates
- Rocky Mountain Cued Speech Association -
  www.rockymountaincuedspeech.org
  - (AZ, CO, WY, SD, ND, MT, ID, UT)

Cued Speech and Cued Language Resources

- CueSign, Inc - www.cuesign.org
  - Focused on supporting access to both ASL and Cued American English
- Cue College - www.cuecollege.org
  - Online Cued Speech Instruction and E-store
- DailyCues - www.dailycues.com
  - Educational resources and games for Cued Speech fluency

Cued Language Transliterators

- TECUnit - www.tecunit.org
  - National certifying body for cued language transliterators
- Language Matters, Inc - www.languagemattersinc.com
  - Cued language transliteration services and training

Cued Language Transliterators

- Cue For You, LLC - cueforyou@gmail.com
  - Video Remote CLT services
- Cued Language Access, LLC - www.cuedlanguageaccess.com
  - CLT services - Colorado/surrounding states
- Cued Access, LLC - www.cuedaccess.com
  - CLT services - Minnesota

QUESTIONS?

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