Using Cued Speech to Support Literacy

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Establishing the Atmosphere

- What is this session?
- What is this session NOT?
  - Research studies biases**
- What is our stance?

Who uses Cued Speech?

About 8 percent (531 out of 6618) of deaf and hard of hearing students enrolled in programs throughout the United States use Cued Speech

While this constitutes a small number, these students, like all of our students, deserve support in their choice of communication.

Office of Research Support and International Affairs. (2014)

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%

303 families
from 10 states

http://www.infanthearing.org/ei-snapshot/

Language Development in Deaf Children

Marschark, M. (2001). *Language development in children who are deaf: A research synthesis.* Alexandria, VA: National Association of State Directors of Special Education. ERIC ED 455 - 620.

Overview of available research on language development in deaf children and summarizes many issues related to language development. Highlights what deaf or hard of hearing children need in order to develop language.

The first steps 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

Deaf and Hard of Hearing Children Need...

- Fluent language models: Sign language **and** spoken language should be considered complementary approaches for encouraging language development in deaf children
- Early interactions to establish the foundation for language development
- Constant exposure to reading
- Visual strategies that enhance communication and language
- Experience with English to be able to read and write in English

More thoughts...

"Schools should make use of all possible strategies to encourage reading during childhood in order to promote the natural acquisition of both language and English literacy among younger deaf children."

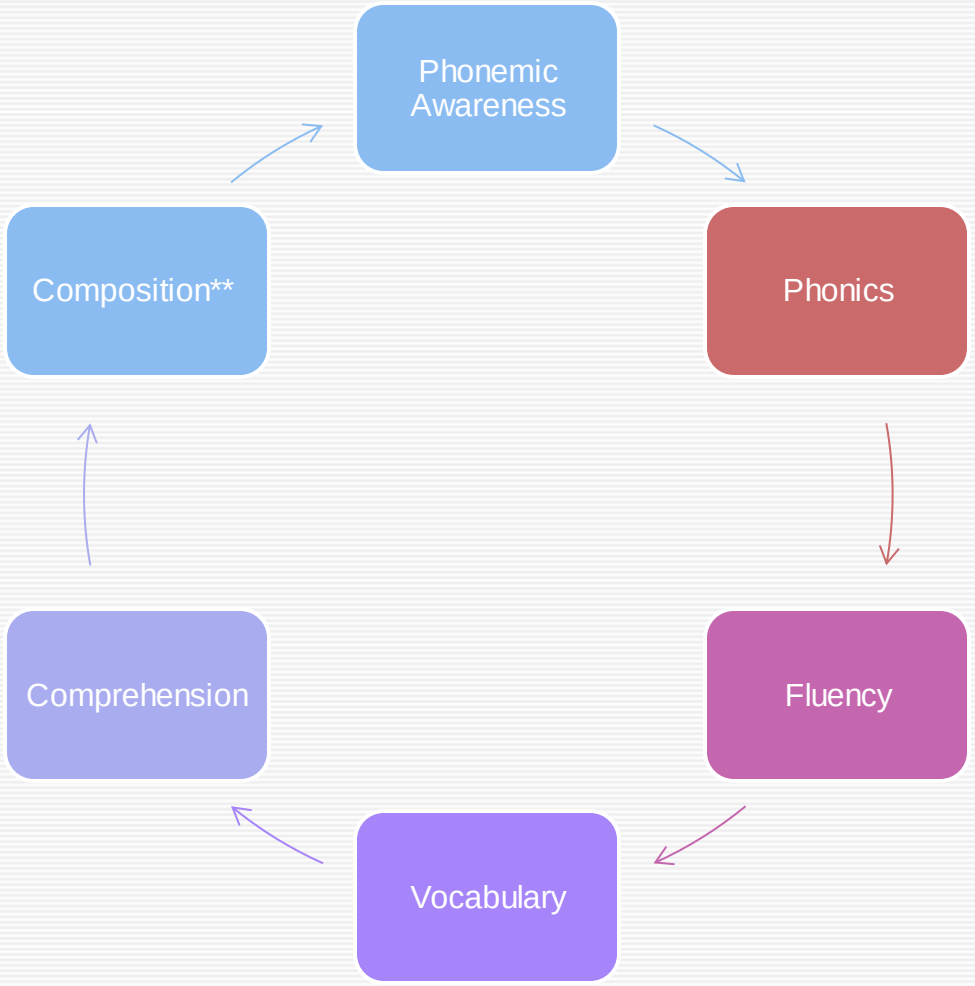
"We should not expect to find any single predictor of reading success that works for all children, deaf or hearing..."

(Marshark, 2001)

Provide language access!

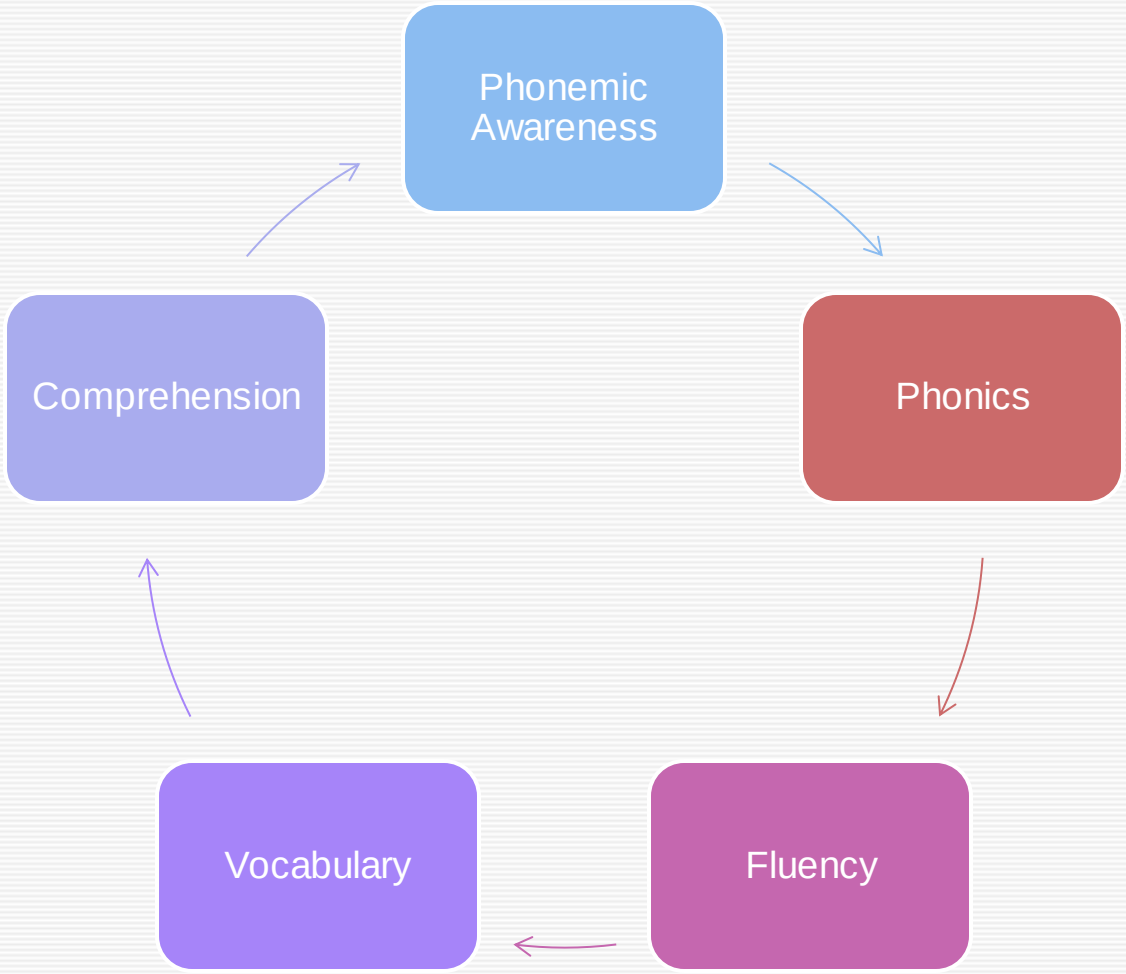
We are often expecting deaf and hard of hearing children to learn language without giving them all the tools to fully access that language.

How does this relate to literacy?



~The National Reading Panel Report (US Department of Education, 2000)

How does Cued Speech fit in?



~The National Reading Panel Report (US Department of Education, 2000)

Cued Speech is...

- A **PHONEMICALLY BASED** MODE OF COMMUNICATION USED TO MAKE A SPOKEN LANGUAGE VISUAL.
- A **CODE** FOR SOUND PATTERNS THAT CAN BE USED TO SUPPORT THE PROCESS OF LEARNING TO READ AND WRITE.
- A **MODE** THAT CAN BE USED TO SUPPORT PHONEMIC AWARENESS AND PHONICS DEVELOPMENT.

Development of Cued Speech

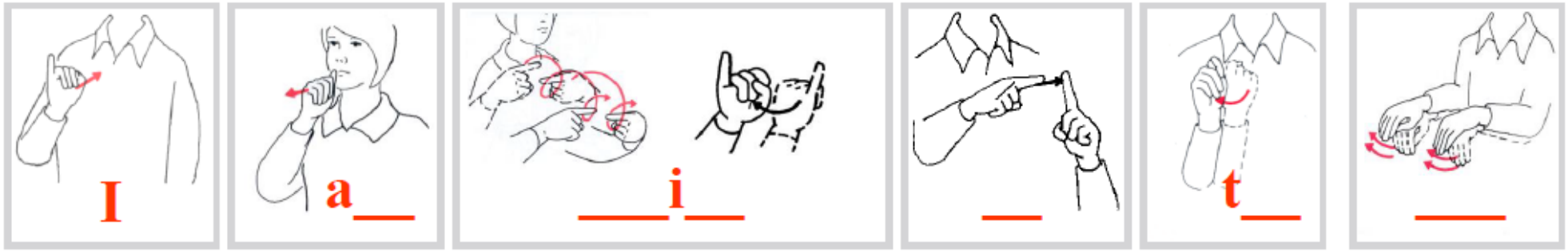
"If all the phonemes of speech looked clearly different from each other on the speaker's mouth, just as they sound different from each other.... a profoundly deaf child could learn language through vision almost as easily as the [hearing] child learns it from hearing." (Dr. Orin Cornett, inventor of Cued Speech, 1965)

Handshapes represent consonant phonemes	Placements represent vowel phonemes

"I am going to the store."

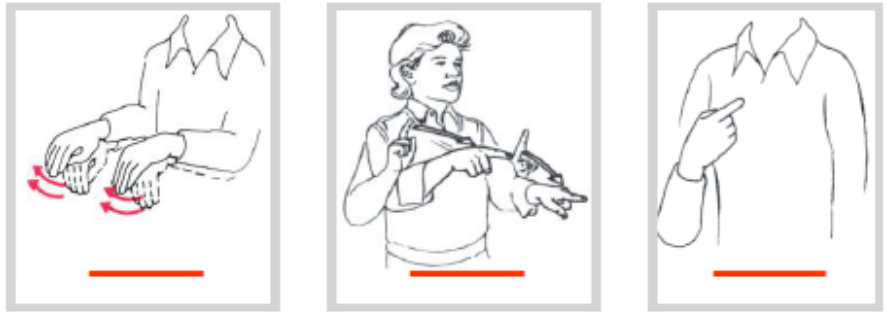
How many English phonemes do you see?

Signing Exact English:



Pidgin Signed English:

American Sign Language:



Cued English using the system of Cued Speech:

Phonemic Awareness

Phonemes are the smallest unit of English (ie – consonant and vowel).

Cueing allows the deaf child full access to the phonemic code of English through vision alone.

English phonemes can be conveyed acoustically through speech or they can be conveyed visually through cueing.

Doenges, K. S. (2003)

Phonemic Awareness

Rhyming: the ability to "hear" same sound endings in words	Alliteration: awareness of sound repetition	Blending: the ability to put individual sounds together (p-i-g becomes pig)
Segmentation: the ability to break sounds apart (pig becomes p-i-g)	Syllables: parts of the words	Phonemic Awareness is always "through the air"…there is no print!

Rhyming

- The ability to "hear" the same ending sounds in words (both production and detection)
- Blue-glue sheep-shop
- But what about...
  - you-few though-enough
  - most-cost bear-fare
  - cup- gum ten-hen

Orthographic (printed) and Homophenic (lip reading) distractions tend to be difficult for Deaf readers

(Charlier & Leybaert, 2000)
(LaSasso, Crain, & Leybaert, 2003)

Rhyming

- **Results indicate that deaf individuals from early and intensive CS backgrounds perform more like hearing peers in rhyme judgment tasks than do deaf peers from oral, signing, or late cueing backgrounds**

Charlier, B. L., & Leybaert, J. (2000).

Rhyming

- **Early Deaf cuers, who use cue at home performed similarly to hearing students in relying on phonology to generate rhymes. Deaf signers, late cuers, and non-manual users performed less well, relying on orthographic similarities.**

LaSasso, C., Crain, K. & Leybaert, J. (2003)

Phonics

- Once children start having an understanding of sounds and how words are made up of sounds (phonemic awareness) – that is when you introduce the letters.
- Early phonological awareness equates to later development of phonological skills (Colin, Megnan, Ecalle, & Leybaert, 2007)
- Cueing gives the ability to "sound out" unfamiliar words visually based on phonological patterns

Vocabulary & Comprehension

- Bilingual Families
  - Cat- Gato
- Multi-Sign Words
  - Kiosk: Small-Store-Set
- Technical Signs
  - Hypotenuse
  - Hydrophobic

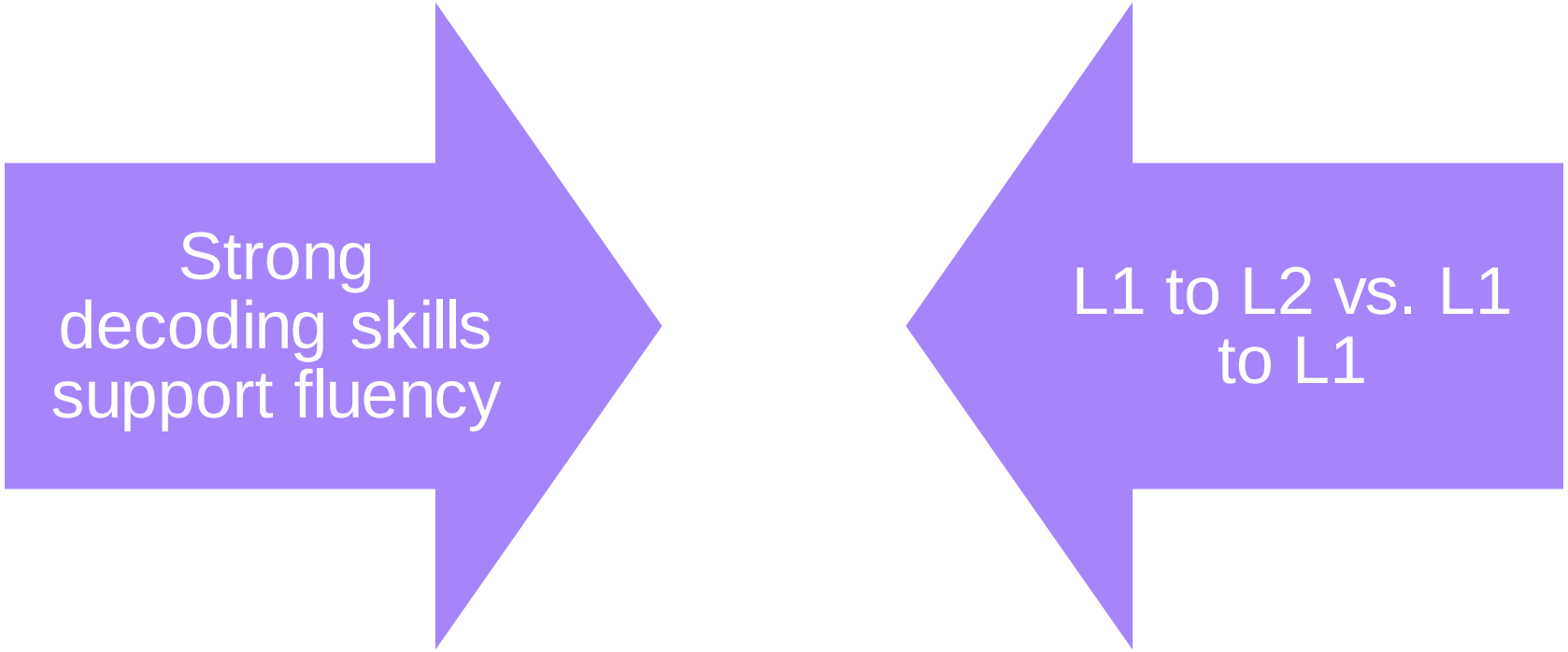
This does not negate the need for fingerspelling for deaf signers. Fingerspelling is critical for young deaf signers... this is just another consideration

Receptive Language

- **CS learners with severe to profound losses averaged better than 92% of hearing impaired children on the Rhode Island Test of Language Structure (RITLS) for receptive language.**

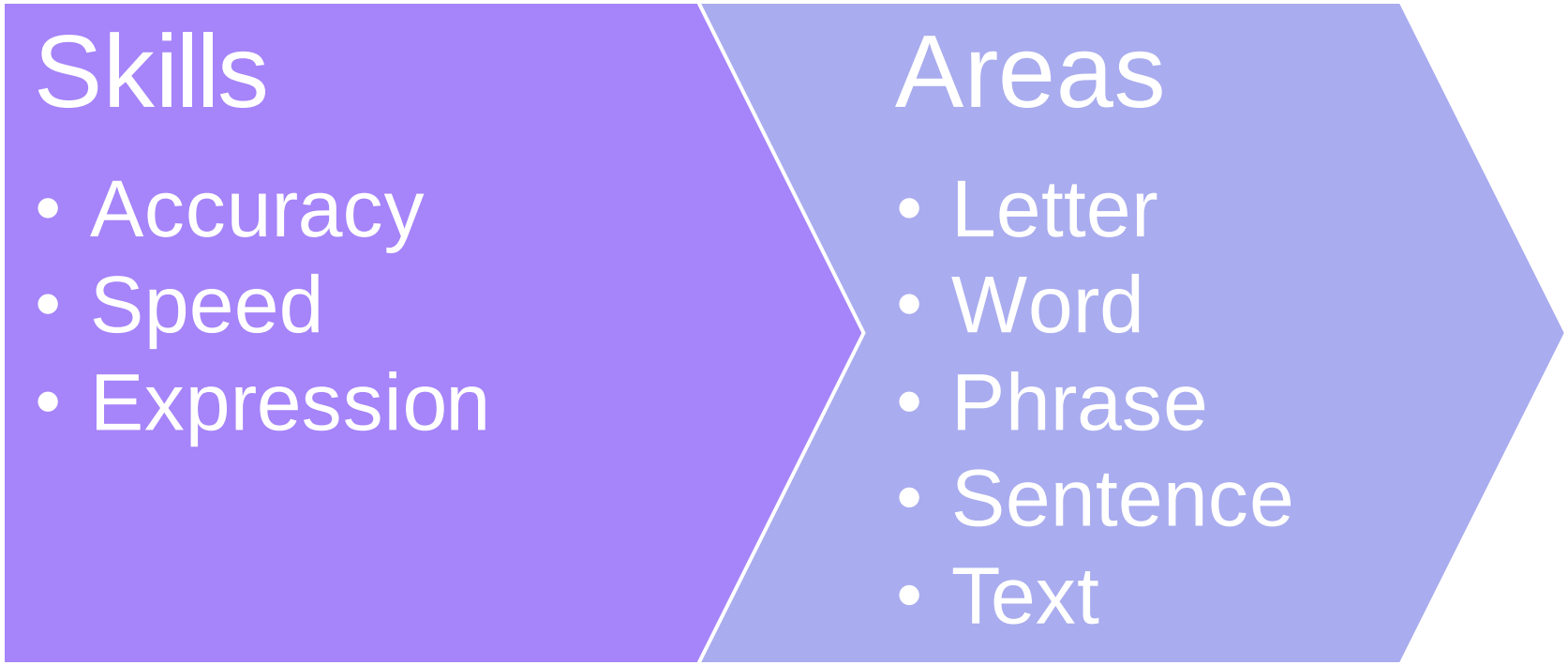
Berendt, H., Krupnik-Goldman, B., & Rupp, K. (1990)

Fluency



Ruddell, 2005

Fluency



(Luckner & Urbach, 2012)

Comprehension

- TC group performed lower than oral and CS groups on all 3 comprehension tests, oral behind CS group on all measures
- No difference in reading ability between CS and hearing children.
- Slight advantage for profound vs. severe likely due to CS consistency (at home/school)
- Cue group had higher reading skills than other deaf populations on the PROLEC-SE comprehension task.
- Cue users have higher raw scores in comprehension tasks and linguistic competence than other deaf populations.
- Hearing students have significantly higher comprehension scores than deaf native signers and oral-language only deaf, but not CS users.

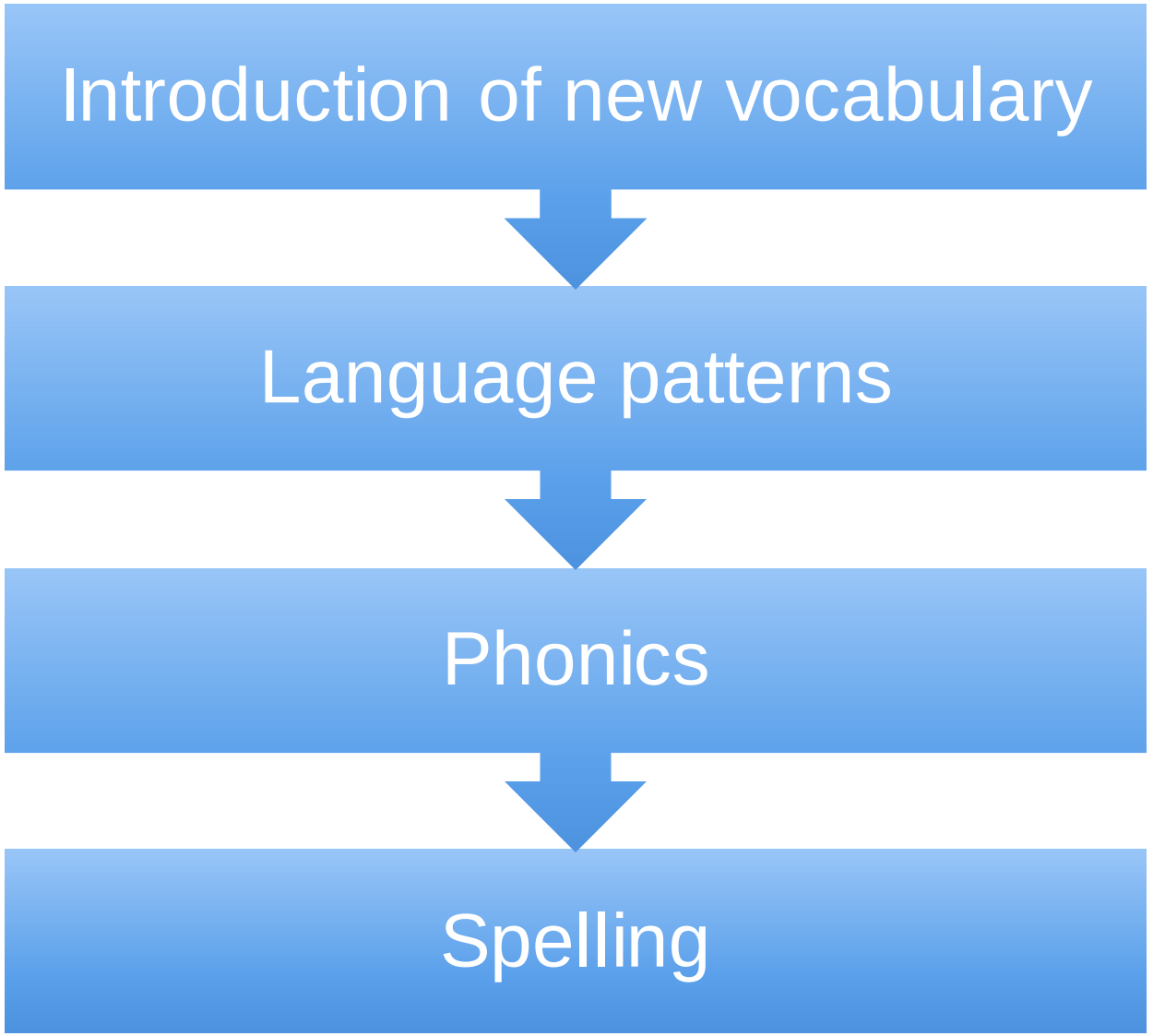
(Wandel, 1989)
(Koo, Crain, LaSasso, & Eden, 2008)
(Torres, Rodriguez, Garcia-Orza, Calleja, 2008)

Reading Research

- **CS develops, in a deaf child, an internal phonological model of the spoken language that can prime the whole process of reading acquisition.**

Alegria, J., Dejean, C., Capouillez, J. M., & Leybaert, J. (1989, May)

Cued Speech in Total Communication Programs



Cued Speech in Auditory-Oral Programs

- Can be used pre and post implant
- Support acquisition of vocabulary
- Reinforces auditory skills
- Disambiguates lipreading
- Gives a clear identify to an ambiguous code
- Reinforces speech skills
- Cues act as 'placeholders' for sounds not yet mastered
- Target sounds are clear

Cued Speech in ASL/English Bilingual-Bimodal Programs

Keeps English and ASL as two separate, important, and distinct languages

Supports development of English vocabulary while using ASL concept

Implications

- Emerging evidence shows Cued Speech supports literacy ....
- More Research is needed!

Questions?

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