Fingerspelling as an Avenue to Support Literacy Goals for Deaf and Hard of Hearing Individuals

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Overview

Fingerspelling is a natural part of many signed languages, including American Sign Language (ASL), in which designated handshapes and orientations represent letters of the surrounding spoken language's orthography. Research indicates that fingerspelling is highly predictive of literacy skills for deaf individuals (Stone et al., 2015; Sehyr et al., 2022). Fingerspelling appears to contribute to reading success by supporting phonological awareness, orthographic skills, and semantic development of young readers who sign.

Fingerspelling: A Series of Handshapes and Orientations that Represent Letters

- Many sign languages have a system of designated handshapes to represent the printed letters of the spoken language in the surrounding community.
- Some handshapes resemble the shape of the printed letter (“iconic”) and others do not (“non-iconic”).

Overview of the Structures and Perspectives of Handshapes in Fingerspelling

- Iconic: Handshapes that resemble the shape of the printed letter.
- Non-Iconic: Handshapes that do not resemble the shape of the printed letter.

Fingerspelling Develops in Two Stages

- Stage 1: Deaf children begin to produce fingerspelling around 24 months of age. They do not yet understand that it represents letters. Fingerspelled words are not yet perceived as a whole. Fingerspelling appears to develop holistically and as part of fluent signing in the young child.
- Stage 2: Deaf children begin to learn the alphabetic principle and map their fingerspelling into orthographically divided syllables rather than one letter at a time so that they learn to perceive fingerspelling holistically and as part of fluent signing.

Fingerspelling Supports Phonological Awareness

- Phonological awareness developed through fingerspelling can be tied to speech and/or sign.
  - Speech-based phonological awareness
    o Sehyr et al. (2017) found that skilled deaf readers appear to recode fingerspelled words into a speech-based code in order to preserve them in short-term memory. The recoding in fingerspelling results in fingerspelled words being perceived as syllables rather than individual letters.
  - Sign-based phonological awareness
    o In children, fingerspelling appears to support sign language phonological awareness by highlighting the internal structure of signs (Haptonstall-Nyaka & Sehyr, 2017; Lederberg et al., 2019).

Fingerspelling Supports Orthographic Knowledge

ASL fingerspelling is correlated with English spelling skills (Sehyr & Emmorey, 2022).
- The brain area that is specialized for orthographic knowledge (sometimes called the Visual Word Form Area) activates when a signer views fingerspelling and also printed letters (Emmorey et al., 2021; Waters et al., 2007).
- Including fingerspelling in “chaining” (Humphries & MacDougall, 1999) helps build associations across languages and represent multiple meanings.
- Providing children with both the sign and fingerspelling of a new word facilitates learning more than just the sign alone (Haptonstall-Nyaka & Sehyr, 2007).

Fingerspelling Supports Phonological Awareness

- Provides children with both the sign and fingerspelling of a new word that is not yet known to them so that they learn to perceive fingerspelling holistically and as part of fluent signing.

Fingerspelling Supports Vocabulary Development

- Expose learners to diverse fingerspelling models.
- Use fingerspelling to support traditional speech-based phonological awareness activities and play handshape games to build sign-based phonological awareness.
- Allow children to practice fingerspelling in diverse contexts.

How can SLPs Use Fingerspelling to Help Build Deaf Students’ Literacy Skills?

- Chain together signs, fingerspelling, printed words, spoken words, mouthings, and pictures
- Teach kids to map fingerspelling handshapes to individual letters (and their associated sounds if they have access to spoken language)
- BUT also model the whole word rather than one letter at a time so that they learn to perceive fingerspelling holistically and as part of fluent signing
- Accept fingerspelled responses on sign vocabulary assessments
- Model how to use fingerspelling as a cognitive tool for rehearsing new vocabulary or practicing spelling when writing, for example
- Use fingerspelling to support traditional speech-based phonological awareness activities and play handshape games to build sign-based phonological awareness
- Improve your own fingerspelling skills and provide resources for L2 caregivers to do the same

Conclusions

- Fingerspelling is a versatile part of many signed languages that supports development of language, cognition, and literacy.
- Fingerspelling appears to contribute to reading success by supporting phonological awareness, orthographic skills, and semantic development of young readers who sign.

Select References


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