

Enhancing Expressive Language Skills in Children Who are Deaf and Hard of Hearing With Alternative Augmentative Communication

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Introduction

Deaf and hard of hearing children develop vocabulary slowly and struggle with abstract words, functional words, and multiple meanings. According to Scott and Dostal (2019) a deprivation of language in the early years may be a part of the puzzle for difficulties deaf and hard of hearing children encounter, rather than the hearing loss itself. Research points towards the use of American Sign Language (ASL) as a reliable treatment for deafness and hearing loss but is often overlooked due to many deaf and hard of hearing (DHH) children being born to hearing parents (Grether et al., 2019; Lederberg, et al., 2013; Meinzen-Derr et al., 2021). Some other forms of treatment include simultaneous communication and spoken language, which have fewer positive outcomes than those who are taught ASL exclusively (Lederberg et al., 2013). Alternative and Augmentative Communication (AAC) has been widely used for closing the language gap in students who have complex learning disabilities. Researchers such as Meinzen-Derr (2019) have introduced an innovative technology assisted therapy intervention otherwise known as Technology Assisted Language Intervention (TALI) for DHH children and has seen promising results. AAC applications mostly used simplistic communication to convey meaning and assess understanding. TALI or AAC provides support for abstract linguistic concepts such as consistent models for verbalizations and recognition memory and can provide multisensory, visual, and auditory input (Drager et al., 2010). These components are important for language learning and learning abstract language concepts in environments that are verbal language dominant.

Speech and Language of DHH Children

Research focuses on bilateral hearing loss and deafness ranging from moderate to profound in children ages 0-5 years. Children with mild to moderate hearing loss are still at risk for falling behind socially and academically (Meinzen-Derr, 2021; Yoshinaga-Itano et al, 2017). On a positive note, DHH children display skills that are relatively close to hearing peers such as nonverbal communicative skills (body posture and eye contact; Yoshinaga-Itano et al., 2017). In a literature review done by Scott & Dostal (2019) early intervention was one of the most beneficial programs available for children who are DHH. It was found that children who were enrolled in early intervention programs showed higher levels of vocabulary learned than those who were not. (Yoshinaga-Itano et al., 2017).

Even though research shows that children with profound hearing loss are more at risk than typically developing children, a study done by Meinzen-Derr et al. (2018) concluded that some children with hearing loss at a much higher risk of language underperformance or language comprehension when compared to normally developing children. Those at risk for language underperformance includes children with hearing loss who have:

- more severe levels of hearing loss
- cochlear implants
- a lower socio-economic status (SES).

Additionally, tested in verbal and nonverbal skills, children with bilateral hearing loss showed normal nonverbal cognitive skills but were one-standard deviation below normal in oral language skills (Meinzen-Derr et al., 2018). Despite positive effects of early intervention, children who were DHH continued to exhibit deficits in phonological awareness by 5 years of age which could affect the rate of development of literacy skills.

Speech and Language Development

AAC intervention can have a positive effect on facilitating expressive language such as pragmatics, semantics, syntax and morphology, and the learning of tenses as well receptive or comprehension of language skills (Drager et al., 2010). This allows children to learn skills previously unobtainable in their environments. Researchers agree that AAC has been shown to facilitate the development of communication skills during the critical period or ages 2-5 years (Drager et al., 2010; Griffiths et al., 2022; Meinzen-Derr, 2021). Some points to mention:

- The use of AAC should be used as a supplementary instrument because it is not likely to be implemented consistently across all environments (Drager et al., 2010 Griffiths et al., 2022; Meinzen-Derr, 2018).
- AAC provides opportunities for increased exposure and interactions which are key factors in development of language development. DHH children often require twice the amounts of exposure to new content in order to fully comprehend meanings and context (Scott & Dostal, 2019; Yoshinaga-Itano et al., 2019).
- AAC can be implemented in ways that are enticing and can be used with a range of varying activities that can be motivating for everyone involved (Griffiths et al., 2022).
- Research done by Meinzen-Derr (2021) indicated that AAC intervention with DHH children increased mean length of utterance (MLU), conversational turn taking, and showed improvements in receptive and expressive language skills.

Limitations of using AAC for DHH Children

- Cost of devices, portability, and durability of devices (Drager et al., 2010)
- Limited use of device in environments other than therapy setting (Drager et al., 2010)
- Many studies only examined expressive language or receptive language only instead of both (Clarke et al., 2017; Drager et al., 2010; Lederberg et al., 2013; Meinzen-Derr et al., 2018)
- Lack of over opportunities and variations of educations settings (Scott & Dostal, 2019)
- Other difficulties include communication limitations, socio-emotional difficulties, additional syndromes, and disorders can accompany hearing loss (Griffiths et al., 2022)
- According to a social validity test of a technology assisted intervention by Grether et al. (2019), speech pathologists concluded that devices needed an increase of vocal clarity, and to provide correct feedback when mistakes are made. Parents also reported an increase in verbalizations.
- Parent or caregiver use of AAC integration at home can vary and may not be present while others use it as much as they can (Grether et al., 2019)

Clinical Implications

Here are some ways that a speech language pathologist may be able to use some of this information in a clinic, school, or early intervention setting with parents who are interested in their DHH child learning oral language. It is always important to consider what the parents are comfortable with.

- Consider providing loaner devices for families who cannot afford to purchase AAC devices.
- Provide the families with assistance filling out scholarships and grants to receive funds for AAC devices.
- Assist parents in finding cheaper alternatives for AAC devices such as apps and low-tech options if a loaner AAC device is not accessible.
- Improve communication with classroom teachers allowing them to assist with the transition of learning that a DHH student will experience as learning switches from learning to read to reading to learn.
- Teach parents strategies for incorporating AAC into their child's life at home.

References

