

AAC Increases Communicative Success and Reliability in Audiological and Community Settings for Deaf/Hard of Hearing+ Individuals



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Background

Children with developmental disabilities experience disparities in accessing audiological assessments, putting them at risk for missed or late diagnosis of reduced hearing (Bonino et. al., 2024). Additionally, when choosing communication modalities, children with physical and/or cognitive limitations may not be able to access signed or spoken languages, indicating a need for Augmentative and Alternative Communication (AAC). Regardless of the communication modality chosen, everyone has the right to be able to communicate their wants, needs, and ideas.

Several barriers for children with developmental disabilities may exist in clinical audiology appointments including:

- Shorter attention spans
- Inability to condition to standard audiological testing
- Sensory avoidance limiting the amount ear specific information obtained
- Limited language to communicate and be active participants in their care
- Neurodivergence and unexpected behaviors

When audiologists cannot obtain reliable behavioral responses from a patient, they may resort to a sedated ABR so that thresholds can be obtained and decisions on amplification can be made. Sedation, however, may not be possible in certain populations due to variety of reasons. This case study can hopefully provide another alternative approach to behavioral testing.

Methods

This case study highlights a phased approach that was used to introduce new hearing-related vocabulary. The child in this study was diagnosed with 1p36 deletion syndrome and completed sedated ABR testing which showed an initial mild to moderate hearing loss bilaterally.

Phase 1: Core Vocabulary

Folder: "ear"

- Icons: yes, no, working, not working, I, need, want, hearing technology, I can, I can't, hear, too loud, too quiet, a break, ready, not ready, take off, put on, all done, etc.

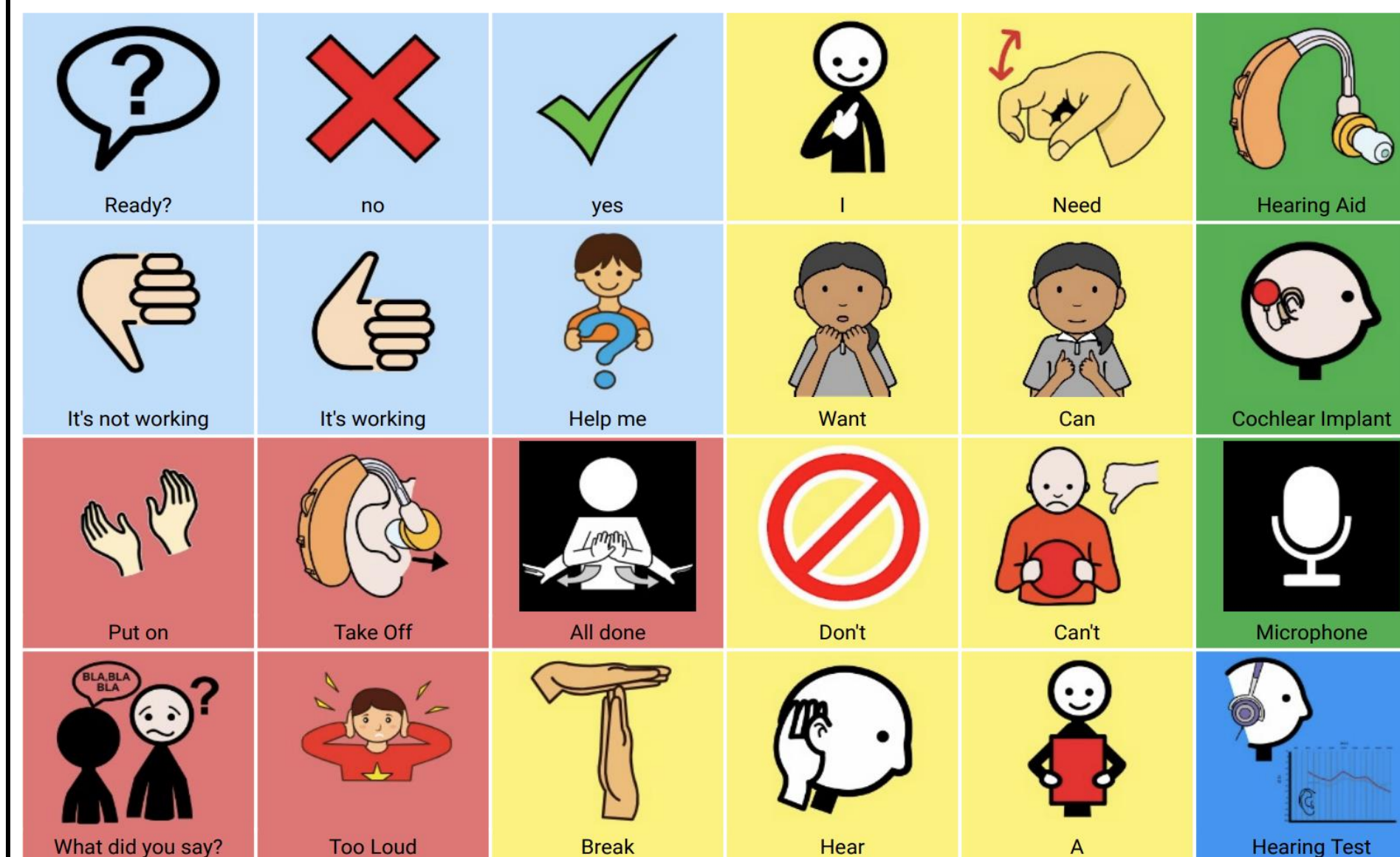
Phase 2: Fringe Vocabulary

Folders: "Hearing Test", "Listening Check", "Hearing Aid/Device/Cochlear Implant", etc.

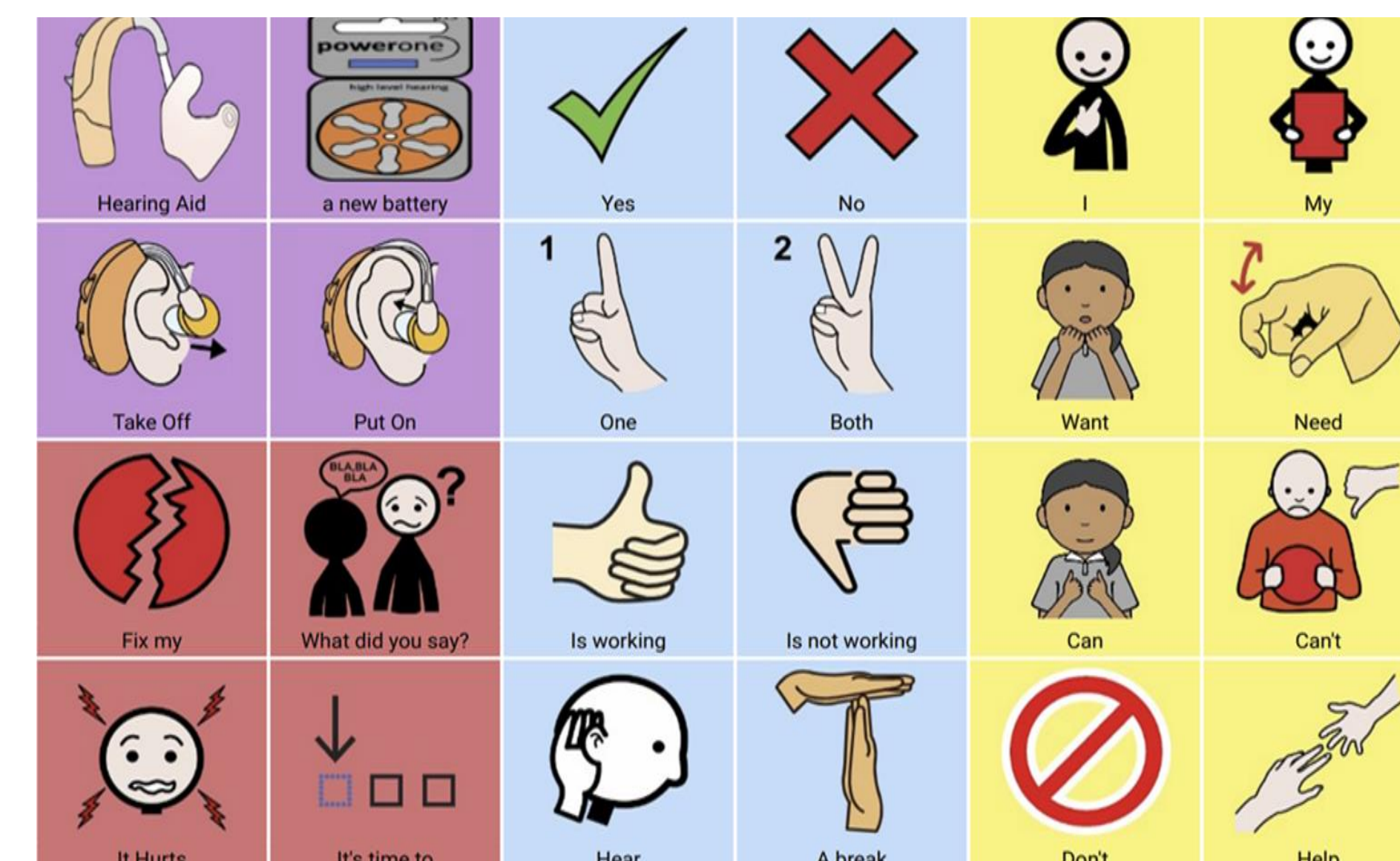
- Icons: Ones that are important for the individual to participate in clinical audiology appointments, or other educational/clinical settings.

Examples of AAC Boards

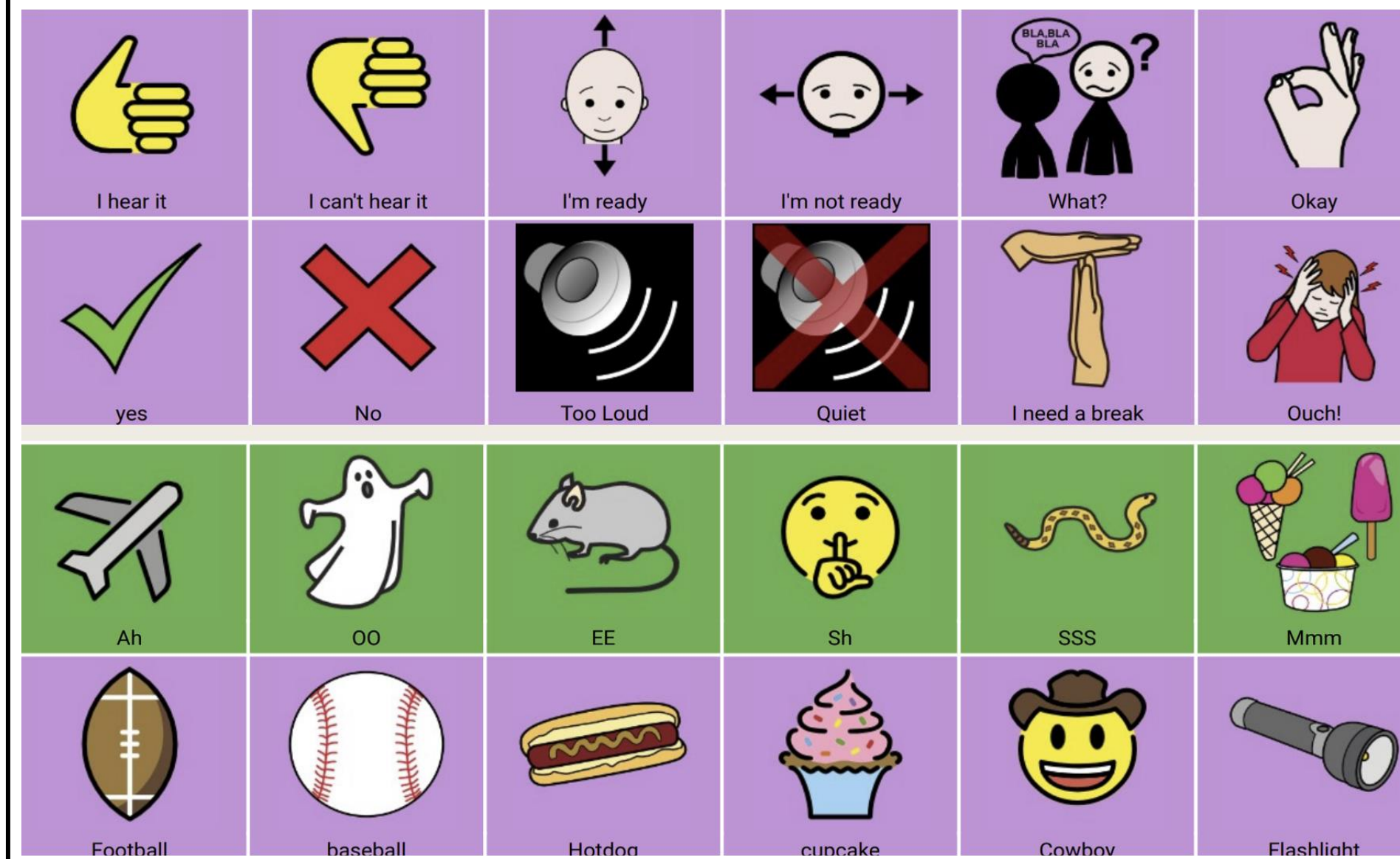
General Advocacy (Core)



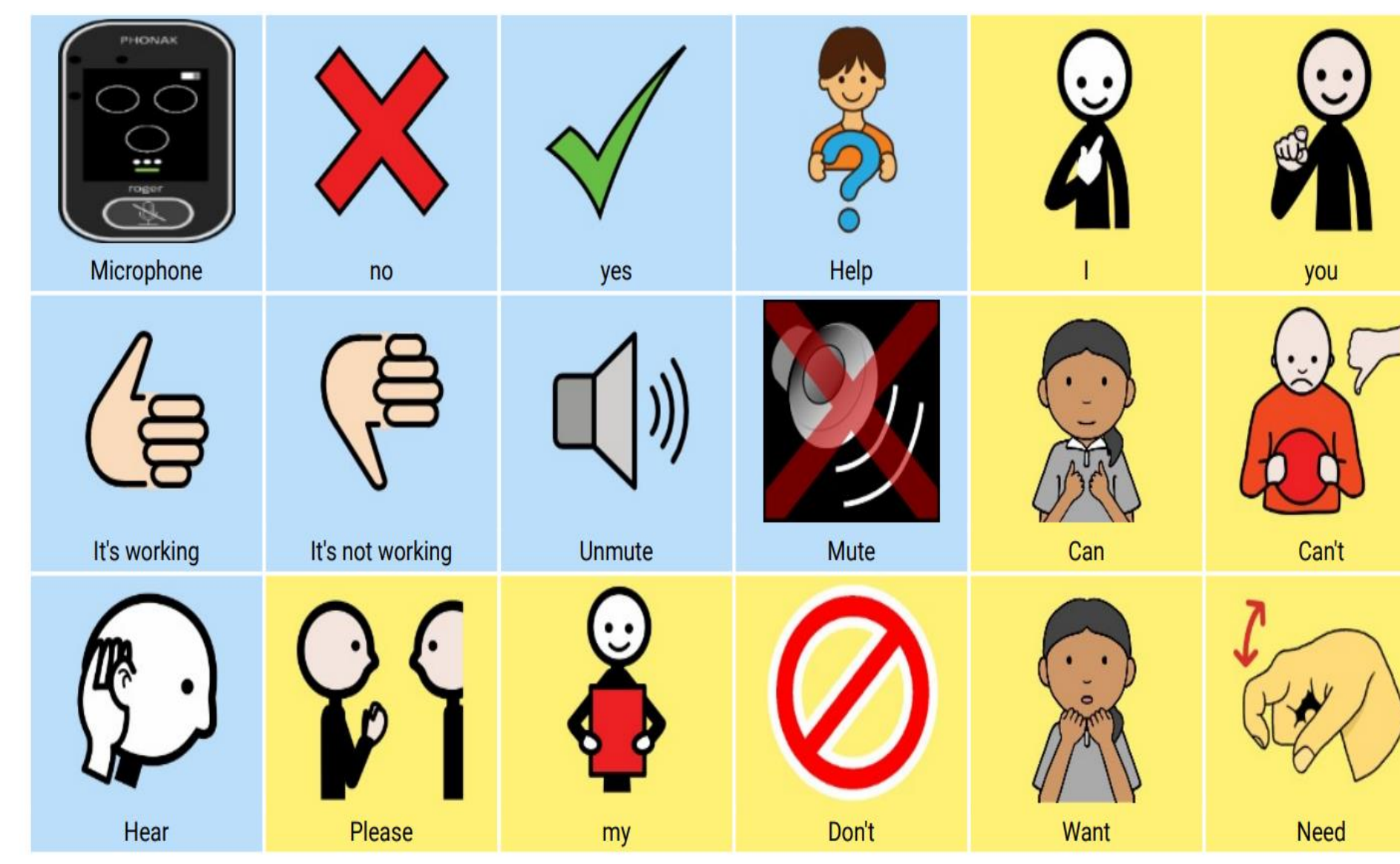
Hearing Aid Advocacy



Clinical/Listening



Microphone Advocacy



Discussion

The use of Augmentative and Alternative Communication can positively impact a child's ability to actively participate in their audiological appointments. For the child described in this project, audiology appointments required the use of an assistant to aid the audiologist in confirming responses and obtaining them, as well as a trusted adult to hold the child and prevent him from removing the headphones or inserts. In past appointments, the child would not tolerate anything touching his ears and would only occasionally respond to stimuli presented through speakers in the room, even when above his assumed thresholds. His deaf and hard-of-hearing teacher used these challenging and sometimes distressing appointments as an opportunity to give him access to vocabulary specifically related to his listening needs on a high tech AAC device he had been using for several years at school and home.

When this child was given access to his own AAC device and/or low-tech language boards in an audiological appointment, he was able to:

- Attend to tasks longer
- Tolerate wearing headphones
- Build better rapport
- Clearly communicate his needs
- Provide more reliable responses during behavioral testing

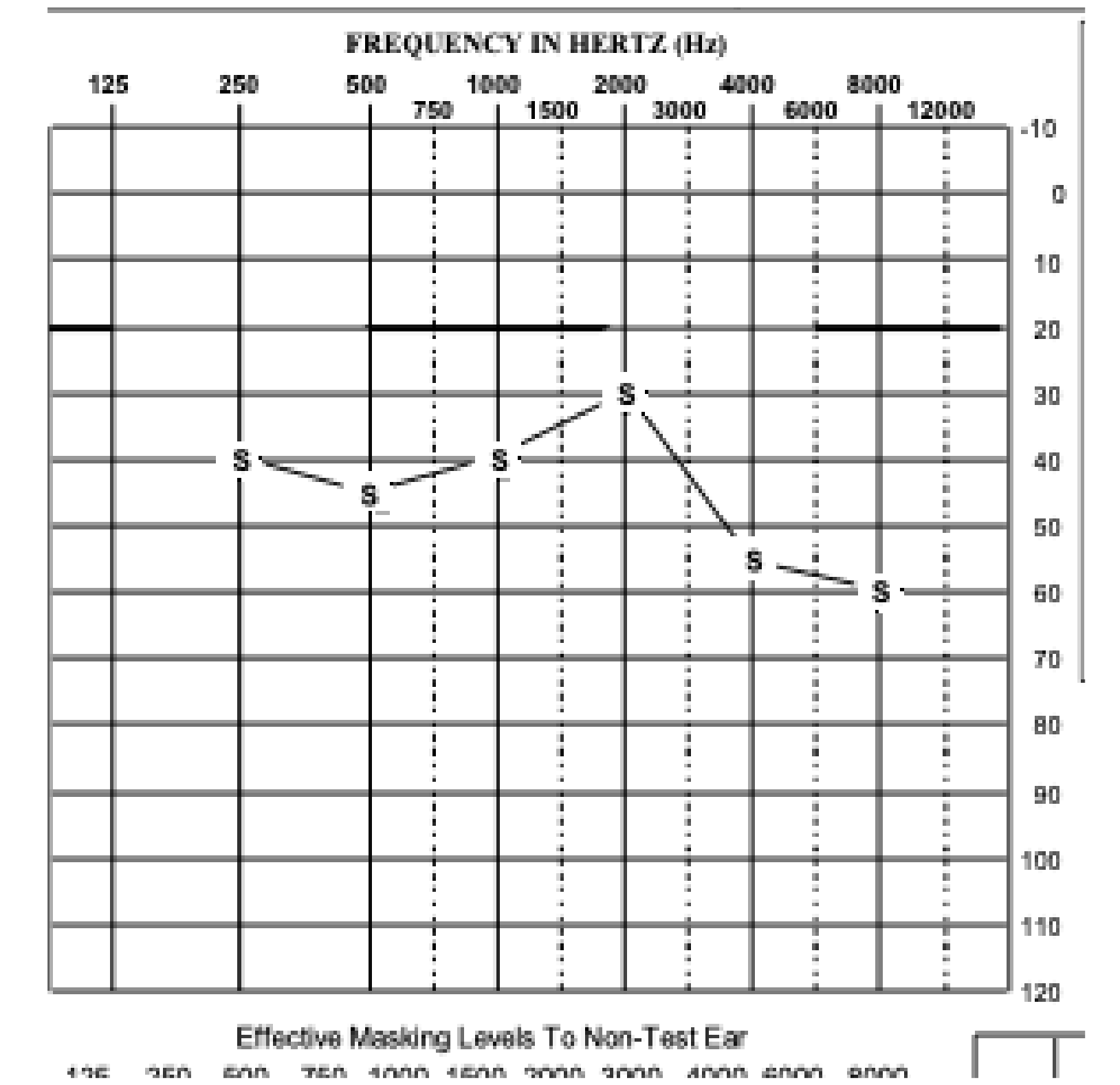
When clinicians obtain more reliable and consistent responses, children are more likely to have their hearing devices programmed more effectively, leading to better hearing and language outcomes overall. Children who have good access to language have a better chance at developing self-advocacy skills that will benefit them throughout their entire lives. For more information or guidance on implementing this, please scan the QR code.



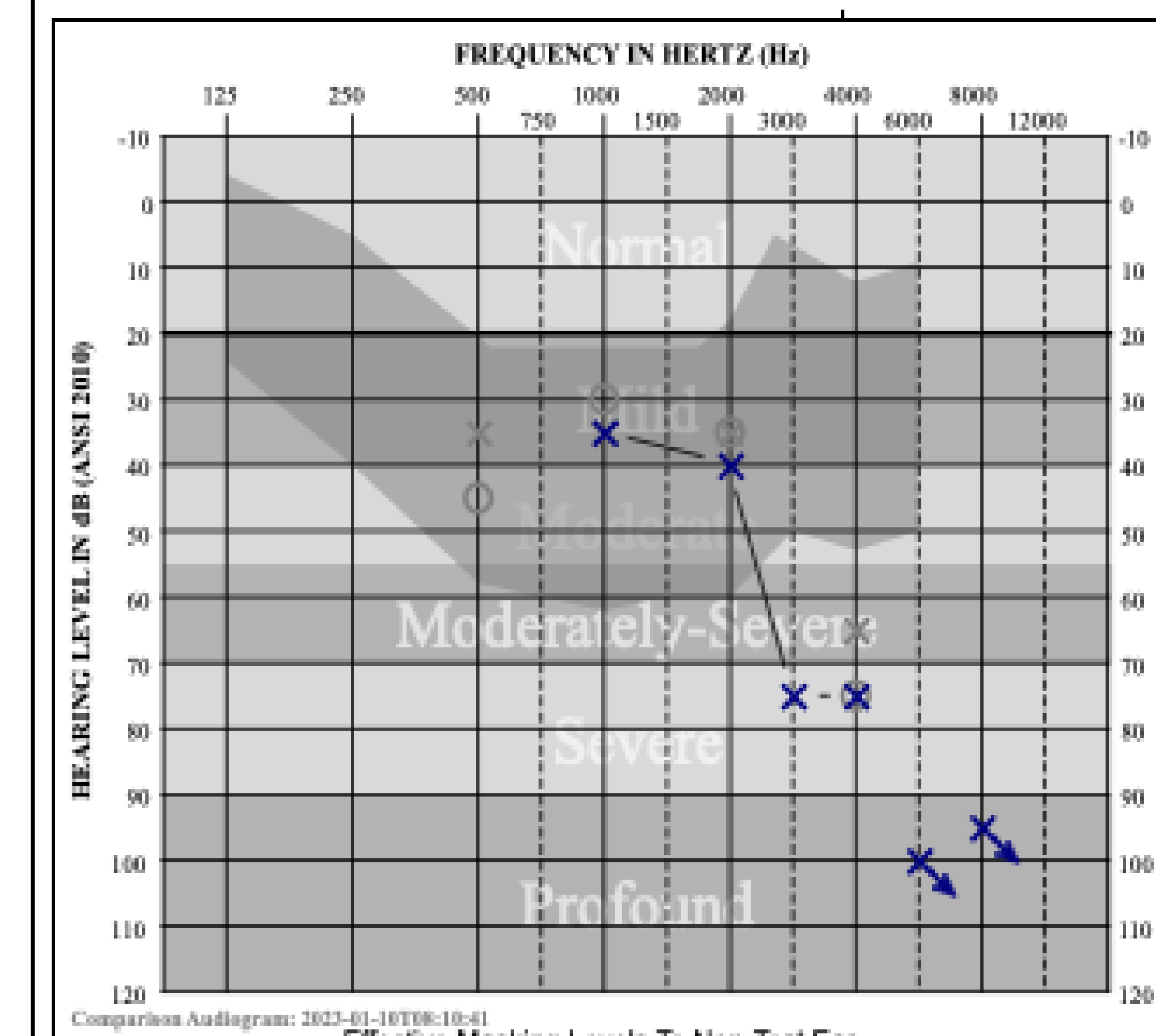
Results

Case Study:

Hearing of a 5-year-old male with 1p36 deletion syndrome done in a sound field 2019 with fair reliability.



Hearing levels obtained with inserts in 2024 post AAC intervention with D/HH teacher as a test assist with fair reliability.



Acknowledgement

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