Integrating Behavioral and Hearing Intervention: ABA Strategies and Provider Collaboration for Children with Hearing Loss

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Background

EHDI Framework & Barriers to Functional Progress

The Early Hearing Detection and Intervention (EHDI) framework promotes timely identification and support for infants who are deaf or hard of hearing through the 1–3–6 benchmarks: hearing screening by 1 month, diagnostic evaluation by 3 months, and enrollment in early intervention by 6 months (Joint Committee on Infant Hearing [JCIH], 2019). While early amplification and family-centered intervention are strongly associated with improved language outcomes (Ching et al., 2017), meeting these benchmarks alone does not ensure meaningful participation in therapy or audiological testing, accurate diagnostic data, or functional progress. Many children who are deaf or hard of hearing (DHH) have co-occurring developmental, cognitive, or medical complexities that contribute to variability in communication outcomes (Szarkowski et al., 2014). These factors may create barriers within traditional service models, affecting behavioral audiometry, amplification tolerance, sustained attention, skill acquisition, and generalization. As a result, children may remain enrolled in services yet demonstrate limited functional progress despite active provider involvement.

Applied Behavior Analysis & Collaboration

ABA is defined by seven dimensions: applied, behavioral, analytic, technological, conceptually systematic, effective, and generality (Baer et al., 1968; Cooper et al., 2020; Fisher et al., 2021). It is a scientific discipline with the aims of understanding and improving socially significant behavior (Baer et al., 1968; Cooper et al., 2020). The field systematically implements tactics derived from the principles of behavior to produce meaningful improvements in socially important behaviors. Experimental methods are used to identify functional relations between environmental variables and behavior change (Baer et al., 1968; Cooper et al., 2020). Many behavior analysts engage in professional practice, delivering behavior-analytic services to individuals across educational, clinical and community settings (Behavior Analyst Certification Board [BACB], 2022; Cooper et al., 2020).

Collaborative practice between behavior analysts and other related services professionals is increasingly recognized as essential for supporting children with complex needs (Light Shriner et al., 2023). Effective collaboration relies on clear communication, shared goals, and role understanding, which can improve client outcomes (Summers et al., 2022; Friedman & El Roy, 2024). Professional guidance emphasizes respect, coordinated planning, and ongoing communication, and qualitative evidence suggests that collaboration enhances participation, communication, and consistency of behavioral strategies (ABAI, 2025; Fairchild, 2023). Collectively, these findings highlight the importance of interdisciplinary collaboration with applied behavior analysis practice to optimize service delivery and child outcomes.

Rationale & Objectives

We focused on the potential impact of collaboration across providers for DHH children. Through our collaborative casework as a Teacher of the Deaf and Hard of Hearing and a Board Certified Behavior Analyst®-Doctoral (BCBA-D), we observed that coordinated behavioral strategies were associated with more reliable audiological testing, increased amplification tolerance and wear time, enhanced sustained attention, improved functional communication and academic skills, stronger caregiver carryover, and more consistent cross-setting progress monitoring. These observed patterns prompted us to examine whether intentional collaboration among audiologists, speech-language pathologists, educators, ABA professionals, and families enhances participation, data accuracy, and functional outcomes. This poster presents retrospective provider and caregiver perceptions of ABA-informed strategy integration and cross-disciplinary collaboration among professionals and caregivers serving DHH children with complex needs.

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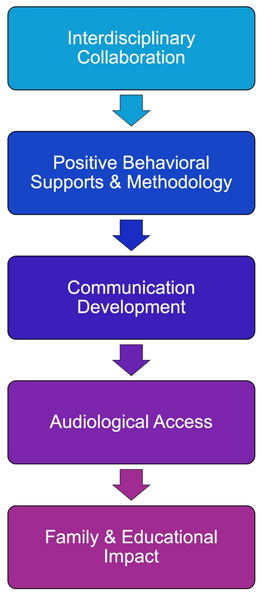
Methods

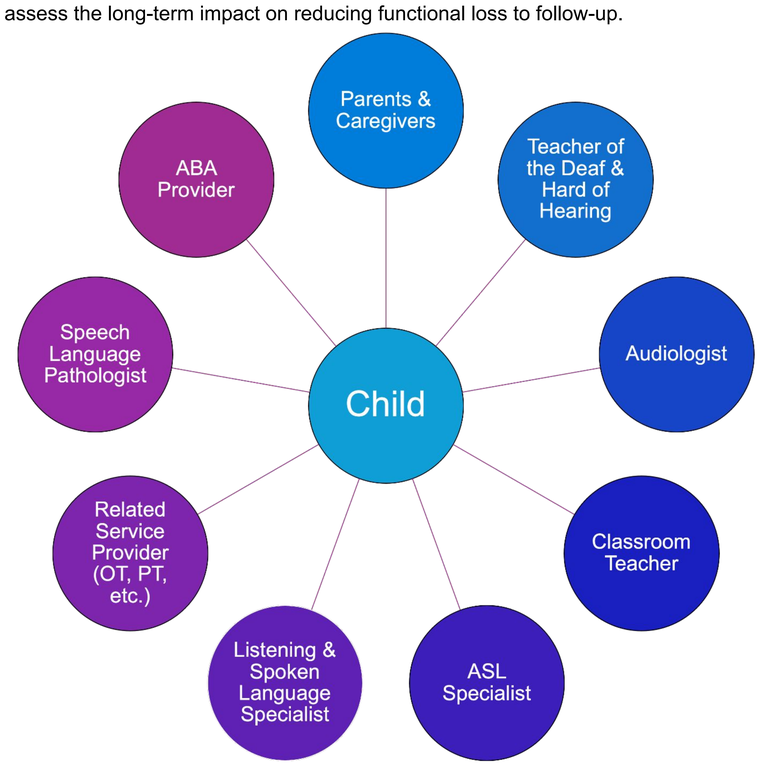
This study utilized a descriptive, non-experimental approach to explore and summarize participant experiences as reported in 19 survey responses. We collected voluntary typed or written questionnaire responses from teachers, ABA providers, audiologists, speech-language pathologists, and parents/caregivers following the use of collaborative services. Students included children who were late-identified with hearing loss, diagnosed with autism, multiple diagnoses, and who presented with cochlear nerve deficiency, including use of an Auditory Brainstem Implant. Interventions were delivered through listening and spoken language and/or American Sign Language, depending on each child's individual needs. Questions explored whether and how providers collaborated, how collaboration influenced goals, communication-related behaviors, participation, and learning, and the use of ABA strategies outside of appointments. Respondents also described communication and coordination among providers, the impact of behavioral strategies on regulation and tolerance of amplification technology, and any observed changes in the child's behavior. Data were analyzed descriptively to identify patterns and themes across participants.

Interdisciplinary Collaboration Model Supporting Children with Hearing Loss



Implications, Limitations & Future Directions

Integrating behavioral strategies within early intervention has the potential to improve engagement in audiological testing and therapy, increase consistency in amplification use, enhance interdisciplinary collaboration, positively impact educational engagement and reduce functional loss to follow-up. This study is limited by its descriptive, non-experimental design, the absence of direct outcome or efficacy data, the number of participants surveyed, the use of only post-surveys, and the conceptual nature of the framework, which may require data-driven validation. Future research should examine collaborative ABA–audiology models with larger samples, measure outcomes such as testing reliability, device use, and educational or communication improvements, and assess the long-term impact on reducing functional loss to follow-up.



Results

Table 1

Interdisciplinary Collaboration Themes

Major Theme	Description	Representative Examples
Direct Collaboration	Ongoing meetings, session observations, shared planning	Weekly meetings, attending hearing appointments
Goal Alignment	Shared vocabulary, communication systems, behavioral targets	Same token boards, shared auditory targets
Consistency Across Settings	Strategies generalized across school, home, therapy, audiology	First-then language used everywhere
Team-Based Approach	Explicit recognition collaboration is essential	"Without teamwork she would be in a different place."

- "Meaningful impact on how communication-related behaviors were addressed."
- "Communication with ABA providers helped me create a uniform structure in speech."
- "Collaboration directly impacted how we addressed communication within her ABA programming."

Table 2

Behavioral Support Strategies Identified

Strategy	Purpose	Observed Outcome
Token Economy	Increase task completion	Improved engagement & stamina
Visual Schedules	Increase predictability	Reduced anxiety
First–Then Language	Clarify expectations	Increase in following directions
Modeling & Shaping	Support approximations	Faster skill acquisition
Timers/Task Boards	Support transitions	Improved regulation
Reinforcement Systems	Increase motivation	Greater participation in listening tasks

- "Visual timer to transition."
- "Consistent structure and expectations across settings."
- "Reinforced appropriate listening behaviors."

Table 3

Communication Outcomes

Domain	Examples of Observed Changes
Expressive Language	Increased ASL, vocal,verbal approximations, multi-word utterances
Receptive/Auditory Attention	Improved attention to spoken input
Functional Communication	Replaced escape behaviors with socially appropriate behaviors and communication for requesting help/break
Generalization	Skills transferred across home, school, therapy, audiology
Academic Participation	Improved ability to engage in structured learning

- "Expanded ASL vocabulary in discrete trial training & natural environment teaching."
- "Drastically decreased maladaptive behaviors; finally able to express wants & needs."
- "Imitation of sounds & following verbal directions embedded into ABA programming."
- "Structured routine helped her stay present long enough to participate in both auditory-based listening tasks and ASL communication."

Table 4

Audiological Outcomes

Area	Before Behavioral Support	After Behavioral Support
Behavioral Audiometry	Untestable / Poor reliability	More reliable responses; full audiogram obtained
Conditioning to Tasks	Difficulty	Transitioned VRA → CPA successfully
Equipment Tolerance	Refusal of headphones/inserts	Independent & excited participation
Attention During Testing	Limited	Full-session participation
Diagnostic Timeline	Delayed	Faster identification of hearing changes

- "From untestable to engaged."
- "Now puts headphones on herself."
- "More tolerant of bone oscillator."
- "We went from no information at all to a complete audiogram."

Table 5

Parent-Reported Changes

Area	Reported Impact
Regulation	Fewer outbursts, improved transitions
Communication	Increased ability to communicate wants/needs
Attention Span	Longer participation in table tasks
Frustration	Significant reduction
Family Experience	Felt supported; "transformational" progress

- "We felt supported. Provider collaboration was key to sustained progress."
- "Transformational for us. Strategies are consistent across all of her support services."
- "Focus on self regulation and understanding first-then drastically reduced frustration."
- "ABA allowed her to successfully be ready to learn."

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