

Single-Sided Deafness: A Case Study of Missed Opportunities

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The implications of single-sided deafness (SSD) are not readily recognizable because these are children who usually speak well and are observed to hear sufficiently. People unfamiliar with this level of hearing look elsewhere to attribute learning and behavior difficulties. The case of a boy's educational and emotional journey through elementary school is described. Even though he was implanted with a bone anchored hearing device, his hearing status was totally disregarded as a contributing factor to his school performance, including his special education services. This case is particularly troubling because the lack of proper assessment and intervention contributed to significant social-emotional and behavioral issues that escalated as the student aged, in addition to learning challenges. The case culminated in a due process hearing in sixth grade and eventual placement in private school.

INTRODUCTION

The authors were involved in the due process hearing described in this case presentation, serving in the capacities of expert witness and independent educational evaluator. As more was learned about the young man and his situation, it seemed inconceivable that a school district could be so negligent in their disregard for considering the impact of reduced hearing on listening, learning, language and academic performance. The situation motivated the authors to share this case to raise awareness about the potential implications of single-sided deafness (SSD). This case is particularly troubling because the lack of proper assessment and intervention contributed to significant social-emotional and behavioral issues, in addition to academic difficulties. These difficulties escalated as the student aged, culminating in the due process hearing in sixth grade. The student's name and some other facts have been changed to protect anonymity.

EARLY HISTORY

Little is known of Kevin's early history. His biological mother was reported to have bipolar disorder and a history of drug use. Since the age of 4, Kevin and his younger sister lived with their grandparents and were adopted by them two years later. The children referred to the grandparents as mother and father. Kevin attended a community preschool and, at school entry, there were no significant learning or medical issues reported.

SCHOOL HISTORY

Kindergarten

Kevin passed kindergarten hearing screening, but his teacher noted difficulties with "listening comprehension" on a progress report (missed opportunity #1). Also noticing some potential listening problems, his mother consulted his pediatrician over the summer who referred Kevin to an ENT practice where the audiologist diagnosed single-sided deafness in the right ear. The pediatrician also diagnosed attention-deficit hyperactivity disorder (ADHD) for which Kevin subsequently used a homeopathic treatment.

First Grade

At the start of first grade, Kevin's mother referred Kevin for evaluation for special education. The multidisciplinary educational team (MET) assessed needs for speech-language and occupational therapy but did not further assess auditory function instead citing the ENT audiologist's report findings which reported 100% speech discrimination (missed opportunity #2). His mother related to the IEP team that Kevin "is easily frustrated...can be bossy...lacks social skills...[has] problems interacting with other children...tends to give up easily when learning something new...[throws] temper tantrums."

Kevin's primary eligibility was determined to be Other Health Impairment (due to ADHD) with speech-language as the secondary disability due to receptive and expressive language delays (missed opportunity #3). Though there were also concerns related to hyperactivity, conduct problems, atypicality, withdrawal, and attention problems, a Functional Behavior Analysis indicated his behavior was attention seeking. Neither the school district audiologist nor teacher of the deaf/hard of hearing was invited or present at the eligibility or IEP meetings (missed Opportunity #4), and there was no recognition of his hearing status, or accommodations to address it, in his IEP (missed opportunity #5).

Second & Third Grade

In August prior to second grade, Kevin received a bone anchored hearing aid which was activated the following March. The IEP Annual Review indicated the "hearing aid" was discussed, but no audiologist or teacher of the deaf/hard of hearing was involved, and no adjustments to the IEP were made (missed opportunity #6). There was no change for third grade, though it was noted that he met standards on state tests.

Fourth Grade

Kevin was staffed out of special education at his three-year eligibility meeting. No additional testing was completed (missed

opportunity #7) as it was determined he had met his special education goals and that he was a “model” student. The MET noted that his ADHD disability was still present but did not require specially designed instruction. His grades were mostly B’s & C’s with a D in math. On state tests, his scores ranged from Minimally Proficient (Math) to Partially Proficient (English Language Arts). A 504 Plan was not considered (missed opportunity #8).

Fifth Grade

Kevin’s grades for this year included a C in Math (a D in Quarter 3) and a C in Reading (D in Quarter 2). He scored as Partially Proficient on his state tests.

Sixth Grade

Because of three reports of discipline issued in one month (inappropriate language, threw an object at a student) resulting in in-school suspension, Kevin’s mother requested a new special education evaluation citing his declining grades, behavior issues, and hearing concerns.

The MET, again, did not include the educational audiologist or teacher of the deaf/hard of hearing (missed opportunity #9) but reported in the records that he had failed hearing screening annually. The MET recommended additional assessments in the following areas were needed to determine eligibility: general intelligence, academics, communication, social/emotional, and motor/sensory plus a Functional Behavior Analysis to evaluate the basis of Kevin’s argumentative behavior/noncompliance (missed opportunity #10).

Comprehensive MET Evaluation

The MET results indicated overall average ability (working memory was low average), a probable emotional behavioral disorder that was attributed to an intention to get adult and peer attention, difficulty making inferences, and below average academic achievement requiring intervention and accommodations. At the eligibility meeting, the MET reported that Kevin’s current difficulties were not primarily the result of adverse impact of “deafness in the right ear” (missed opportunity #11). Even considering the test findings, disability eligibility was again determined as Other Health Impairment due to ADHD. Although Kevin’s mother asked for evaluations related to audiology and hearing impairment, she was denied (missed opportunity #12).

DUE PROCESS

Following the denial, Kevin’s mother sought legal advice and asked for an Independent Educational Evaluation (IEE) at school expense to obtain educational audiology, speech and language, psychoeducational and occupational therapy evaluations. The district denied the audiology and speech-language evaluations because the district had not completed assessments in those areas (missed opportunity #13). At this point, Kevin’s mother filed the due process complaint and notified the school that she was bringing her attorney to the IEP meeting. In response, the district invited the educational audiologist to attend the IEP meeting though this individual had not assessed Kevin.

IEP Meeting

Assessment results emphasized that Kevin struggles with controlling symptoms related to his diagnosis of ADHD including difficulties with focus and attention, poor listening skills, and being in trouble for not paying attention, and that he is extremely self-conscious about his “hearing aid implant” which also impacts his mood. The educational audiologist summarized Kevin’s most recent private evaluation citing his excellent aided benefit in quiet situations. As a need, the audiologist included that, to increase Kevin’s communication ability, the school district could provide assistive technology including a classroom or personal FM amplification device. Under the IEP Special Considerations section, the MET indicated that the “Statement of the Language Needs, Opportunities for Direct Communication with Peers in the Child’s Language and Communication Mode”, was not needed (missed opportunity #14).

The IEP goals offered pertained only to Kevin’s behavioral concerns, none of which addressed the underlying concerns that were impacting his behavior (missed opportunity #15). IEP services offered included:

- Behavior support in the general education classroom to include disability awareness training and self-advocacy skills, provided by the special education teacher;
- An annual audiogram provided by the district audiologist or parent’s private audiologist through private insurance;
- Assistive technology in the form of speech-to-text training to support initiation and writing activities, provided by a paraprofessional, teacher, or staff;
- Audiological support in the form of an FM system while in the general education setting, provided by the audiologist (1 hour/semester);
- Supports for school personnel in the form of speech-to-text-training and FM system training to incorporate universal application across the campus, provided by a teacher or staff and audiologist; and,
- A Behavior Intervention Plan.

Kevin’s mother did not sign the IEP pending outcomes of the Due Process proceedings.

Independent Educational Evaluation (IEE)

A comprehensive speech and language evaluation was conducted, utilizing the Clinical Evaluation of Language Fundamentals – 5th Edition (CELF 5, Wiig, Semel, and Secord, 2013), which consists of several subtests that are designed to assess specific language skills, and the Test of Language Competence-Expanded Edition (TLC-E, Wiig and Secord, 1989), which targets a student’s ability to use strategies in acquiring communicate competence and metalinguistic ability. On the CELF 5, there was subtest scatter, with scores ranging from very low to above average. There was a statistically significant difference between Kevin’s ability to understand language and his ability to express himself. Additionally, there was a statistically significant difference between his semantic knowledge and his ability to apply memory to language tasks. His relatively stronger skills

with receptive language and semantic knowledge may have led his school team to believe that his language skills were uniformly robust. His relative weaknesses with expressive language and his ability to apply memory to language tasks were not recognized by his school team. On the TLC-E, scores ranged from very low to low average. Kevin struggled with the metalinguistic skills needed to interpret and utilize complex language. Students who struggle with these skills experience difficulties with both processing and production of language, which can have a significant negative impact on the performance of the complex academic tasks required of adolescents.

Test effort was an issue throughout the evaluation. Kevin struggled to create sentences and was frustrated, banging his chin on the table and crying. His productions were characterized by false starts, stopping, restarting, and very long pauses while he reformulated his sentence mentally. He frequently made self-corrections, including corrections after an item had passed. These behaviors have implications for classroom performance. In the classroom setting, if Kevin was engaged in rethinking while the rest of the class was moving ahead, he was likely to be “lost”. Overall, Kevin’s scores appeared to be better than his actual functioning, as a great deal of effort and self-correction was noted. In a rapidly-paced classroom, he would not have the luxury of time that the testing environment affords.

A Functional Listening Evaluation (Johnson, 2013) was conducted, and results were averaged, comparing Common Phrases vs Nonsense Phrases. The results are summarized below.

- Common Phrases (evaluates ability to use linguistic knowledge to fill in the blanks)
 - o Effect of Noise – quiet 99%, noise 96%
 - o Effect of Distance – close 99%, distant 96%
 - o Effect of Visual Input – auditory + visual 98%, auditory only 98%
- Nonsense Phrases (evaluates ability to understand words without topic knowledge)
 - o Effect of Noise – quiet 74%, noise 51%
 - o Effect of Distance – close 66%, distant 59%
 - o Effect of Visual Input – auditory + visual 66%, auditory only 59%

The most telling scores were in Kevin’s difficulty understanding nonsense phrases (Table 1). In this task, he was not able to rely on his prior knowledge to fill in the gaps. He dropped to 30% accuracy when he did not have visual input with soft speech in the presence of noise, and he could not use context to fill in the blanks.

Table 1. Kevin’s performance on the Nonsense Phrases section of the Functional Listening Evaluation (Johnson, 2013).

SPEECH UNDERSTANDING NONSENSE PHRASES	Close/quiet	Close/noise Effect of noise	Distant/quiet Effect of distance	Distant/noise Effect of noise + distance
Auditory and visual	70%	65%	75%	50%
Auditory only <i>Effect of loss of visual input</i>	70%	60%	80%	30%

Kevin also completed the Classroom Participation Questionnaire (CPQ, Antia, Sabers, & Stinson, 2007). The CPQ is designed to obtain information regarding an individual student's participation in the general education classroom. The self-assessment is a series of 16 statements each rated on a 4 point scale: 1 = *almost never*, 2 = *seldom*, 3 = *often*, 4 = *almost always*. After reading each question, Kevin circled the number that corresponded to his perception of his ability. The questions were analyzed in four subscales: Understanding Teacher, Understanding Students, Positive Affect, and Negative Affect.

All average subscale scores were below the desirable ratings indicating a significant impact on Kevin's ability to participate in class as well as his academic achievement. His scores further illustrated the frustration he felt regarding his interactions with his teacher and classmates. CPQ scores are significantly correlated with academic achievement lending support to the notion that students who participate, and who feel positively about their participation, are more likely to do well academically.

Due Process Outcomes

The administrative law judge assigned to the case requested that both sides use the mediation process to resolve the issues. The negotiated settlement by the attorney required the school district to pay for Kevin's placement in a private school that focuses on students with unique learning needs and compensatory services.

SUMMARY & REFLECTION

Kevin's educational team erred from the start by relying on the report of his private audiologist, who indicated that his aided speech perception in quiet was 100%. If his audiologist had performed testing under conditions that more closely mirrored the challenges of listening in the constantly changing environment of a classroom, there may have been a better understanding of the impact of Kevin's SSD.

The Missed Opportunities

The fifteen missed opportunities included several procedural violations of this student's right to a free and appropriate public education (FAPE). The quantity of failures listed below reflect the impact of the lack of awareness of the effects of reduced hearing by the entire multidisciplinary team and, subsequently, a total disregard for IDEA as it applies to students who are deaf and hard of hearing.

- Failure to rescreen hearing when kindergarten teacher expressed concern.
 - District is required to ensure all children with disabilities are identified, located, and evaluated (Child Find, (§300.111).
- Failure to conduct assessment according to IDEA requirements. (Denial of FAPE)
 - A full evaluation in all areas of suspected disability meaning a variety of assessment tools and strategies to gather relevant functional, developmental, and academic information about the child, including information provided by the parent (§300.304(a)(1)).

- Failure to recognize the possible implications of single-sided deafness.
- Failure to identify hearing impairment as a disability category.
- Failure to address the special factors (communication considerations for children who are deaf or hard of hearing) (§300.324(2)(iv)).
- Failure to offer a 504 Plan once Kevin was determined to no longer meet special education eligibility criteria even though the district stated that Kevin still had a disability of ADHD.

Kevin had not been considered through the lens of a child with reduced hearing. Many of the struggles he experienced could be attributed directly to his hearing status. His educational history and test performance, both in the IEE and in the district evaluation, might not raise red flags to professionals who do not specialize in the unique needs of deaf and hard-of-hearing children. His subtest profiles, however, coupled with his hearing condition, raised concerns that occur frequently with children with reduced hearing. Lack of knowledge of the effects that SSD can have on a child's academic performance and social-emotional and behavioral functioning can lead to a reactive or "failure-based" approach towards intervention (Winiger, Alexander, Diefendorf, 2016). By recognizing the significant effect of hearing conditions like Kevin's, support and intervention efforts can be proactive and can lead to successful academic and social functioning.

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