



Mainstream News

Information about hearing loss for students, families and educators

Learning Disabilities and Hearing Loss

Where does one end and the other begin?

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PEDIATRICS

Although it is challenging to diagnose a child who is deaf or hard of hearing with a learning disability, this diagnosis is essential to ensure that a plan can be implemented to support their academic and emotional development.

By Krystyann Krywko, EdD

Children who are deaf or hard of hearing are not immune to the specific learning disabilities that children with typical hearing experience, and these learning disabilities can have a profound impact on their academic achievement, behavior and social skills (Edwards & Crocker, 2008). Universal newborn hearing screening, appropriate hearing technology and early intervention combine to provide children who are deaf or hard of hearing with the opportunity to develop a strong language foundation along with cognitive and communication skills. "Having a strong language foundation is central to learning," says Elizabeth Adams, PhD, clinical psychologist at The River School in Washington, DC, "without this strong foundation there can be some academic gaps; but if a child has a language model (either ASL or spoken language) they can access, they should be able to learn."

What happens when a child has an appropriate language model and the appropriate supports in place but still has difficulties learning? Parents and professionals are often aware of the unique challenges that a child who is deaf or hard of hearing faces in the classroom, and the fact that hearing loss by itself can often create learning difficulties. However, delayed academic progress is frequently attributed solely to the child's hearing loss, and the possibility



of specific additional learning disabilities is not always considered (Edwards & Crocker, 2008). Through an understanding of the subtleties in the process of identifying additional learning disabilities in children who are deaf or hard of hearing, parents, educators and other professionals can be aware of indicators that may reveal a learning difficulty.

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Published by



Clarke Mainstream Services



Understanding Hearing Loss and Learning Disabilities: What Is the Relationship?

It is difficult to pinpoint the frequency of learning disabilities among children who are deaf or hard of hearing. Much of the existing research has focused on children who use American Sign Language (ASL) as their language model, as opposed to those who use Listening and Spoken Language (LSL), which also adds another layer of complexity to the research results. Recent research suggests that there is a greater incidence of learning disabilities in children who are deaf or hard of hearing than children

with typical hearing (Marschark & Hauser, 2012). The Gallaudet Research Institute (2011) estimates that roughly eight percent of deaf or hard of hearing students have a learning disability, yet some surveys have suggested the incidence could be as high as 23 percent (Marschark, 2007).

The suggestion of a greater incidence of learning disabilities amongst children who are deaf or hard of hearing (Marschark & Hauser, 2012; Marschark, 2007) may be due to the fact that most of the primary causes of hearing loss are also the primary causes of neurological dysfunction, which can lead to learning disabilities such as premature birth, meningitis, anoxia,

maternal use of teratogenic medication and certain genetic syndromes (Morgan & Vernon, 1994; Marschark, 2007). It's important to approach these etiologies with caution as each condition is simply associated with learning disabilities and in no way predicts the eventual development of a learning disability (Mauk & Mauk, 1998).

Perceiving vs. Processing

Hearing loss and learning disabilities both affect a child's learning; however, they do so in different ways. Soukup & Feinstein (2007) stress the importance of determining whether the learning difficulties are the result of a perception problem (hearing loss) or a processing problem (learning disabilities).

When a sensory function, such as hearing loss, is impaired, then there can be difficulties in identifying, receiving and interpreting information. Either the student is not hearing key parts of a teacher's lesson, or there is unfamiliarity with part of the lesson, such as vocabulary, so the student is not interpreting the lesson correctly.

Learning disabilities (LD) are a group of varying disorders that have a negative impact on learning. They may affect one's ability to speak, listen, think, read, write, spell or compute (NCLD, 2013). Some of the more commonly diagnosed learning disabilities include dyslexia, dyspraxia and auditory processing disorder.

When it comes to the issue of identifying learning disabilities, Stewart and Kluwin (2001) believe that they are a result of a processing problem, where the student receives the information they are reading in a textbook or working on in class, but the brain is unable to organize incoming information adequately. Examples of these types of processing problems are when a child can identify numbers but struggles with memorizing and organizing these numbers (dyscalculia) or if the child listens to a story, but then does not have the ability to retell it (dysphasia).

Mainstream News

is published three times a year (fall, winter, spring) by Clarke Mainstream Services, Northampton, MA.

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Diagnosing Learning Disabilities in Children Who Are Deaf or Hard of Hearing

The diagnosis of a learning disability in a child who is deaf or hard of hearing is difficult to navigate. In the past, children who were deaf or hard of hearing were automatically assumed to have a learning disability due to the presence of a hearing loss or the lack of spoken language. As a result, federal law PL 94-142 (reauthorized in 2004 and better known as the Individuals with Disabilities Education Act or IDEA) includes the following exclusion clause,

... does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps; mental retardation; emotional disturbance; or environmental, cultural, or economic disadvantage (US Department of Education, 2006).

It is understandable why there was a need to reduce the over-classification of learning disabilities in children who are deaf or hard of hearing. According to Calderon (1998), using the two-year discrepancy between IQ and academic achievement would have resulted in classifying the majority of children who are deaf or hard of hearing by the time they reached third or fourth grade with a learning disability. “Thankfully the cognitive-academic split is no longer used as an absolute indicator of a learning disability (i.e., if children had it, LD was present; if not, there was assumed to be no LD present),” says Elizabeth Adams, PhD. “While a cognitive-academic split would still be interesting, the current approach to testing is geared more towards pattern analysis across a number of different measures that assess various domains of functioning. It is through careful analysis of these patterns that strengths, weaknesses, functioning and diagnoses are identified.”

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Evaluation Suggestions

Linda Findlay, MED, coordinator of Clarke’s Comprehensive Educational Evaluation Program and Cindy Forsythe, MED, CAGS, school psychologist and teacher of the deaf at Clarke, suggest that evaluation for learning disabilities of a child who is deaf or hard of hearing should include at least eight different areas of data. This is not an exhaustive list, and when evaluating a student with an educationally significant hearing loss practitioners should choose their assessments based on the referral questions. The data should include:

1. A case history of the type and degree of hearing loss, age at onset, cause of hearing loss, birth and medical history, age at which developmental milestones were achieved, family history and any other suspected disabilities
2. An educational history
3. Information from the professionals working with the students regarding speech and language skills, classroom performance, social emotional functioning, academic skills, etc.
4. Results from two measures of intellectual functioning (i.e., Test of Non-verbal Intelligence and the Wechsler Intelligence Scale for Children -5)
5. Results from educational achievement such as Wechsler Individual Achievement Test -III, Woodcock-Johnson IV, Peabody Picture Vocabulary Test -5, Expressive Vocabulary Test - 3
6. Results from neuropsychological screening instruments to evaluate visual-motor integration skills such as the Rey Complex Figure Test and Recognition Trial, Bender Visual-Motor Gestalt Test, or the Developmental Test of Visual-Motor Integration
7. Results from assessments of adaptive behavior functioning (Vineland Adaptive Behavior Scale, the AAMD Adaptive Behavior Scale) or classroom behavior (Behavior Assessment System for Children- Third Edition (BASC-3) and the Behavior Rating Inventory of Executive Function, Second Edition (BRIEF 2))
8. An audiological evaluation and vision screening
9. An assessment of the student’s communication and language skills including such tests as the Clinical Evaluation of Language Fundamentals (CELF-5), Comprehensive Assessment of Spoken Language (CASL 2), Oral and Written Language Scales (OWLS II), etc.
10. Test results to more directly assess the specific areas of suspected disability. For example, the Comprehensive Test of Phonological Processing (CTOPP II), Key Math II, Woodcock Reading Mastery Test, CELF-5 Metalinguistics, etc.

While this list serves as a great starting point in collecting data and information about a child, it is important to remember that each child has individual circumstances and therefore, additional measures and sources of information might be needed. “I would also want to know a lot of information about the early intervention, language choices, language and education environments at home and school, and a really in-depth analysis of current speech and/or language functioning,” says Elizabeth Adams, PhD. It is also essential that all professionals involved in the evaluation including a psychologist, speech-language pathologist, the special educator, the teacher of the deaf, communicate with each other in order to rule in/out any additional disabilities.

Tips for Identifying Learning Disabilities in Children with Hearing Loss

A key component in identifying a learning disability is awareness and keeping track of patterns over time. The following are some suggestions to help parents and educators ensure that children who are deaf or hard of hearing receive the academic supports they need.

- A child who is deaf or hard of hearing should follow typical patterns of growth and achievement. Hearing loss is usually not accompanied by characteristics of the processing problems of learning disabilities such as visual-perceptual problems, attention deficits, perceptual-motor difficulties, severe inability to learn vocabulary, consistent retention and memory problems, or consistent distractive behavior and emotional factors. If any of these behaviors are present on a consistent basis in your child, then it is important to seek more information as to why these issues are occurring (Pollack, 1997).
- Learning disabilities do not appear overnight. “There will likely be red flags along the way that a child will have been lagging behind from the start,” Heymann said. Parents should collect data about their child’s academic performance (assignments they have completed, struggles they have observed while helping them with homework, consistent difficulties highlighted on school reports) and then visit with their child’s teacher and share concerns. The teacher may try to implement strategies to address areas of concern.
- Some teachers are better at picking up subtleties in a child’s learning. Don’t dismiss a teacher’s concerns by immediately thinking that they don’t understand children who are deaf or hard of hearing. Instead, work together with the teacher in looking for evidence as to what exact difficulties your child might have.
- Pinpointing behaviors that might indicate a learning disability can be difficult in children who are deaf or hard of hearing, but the following are signs to look for, according to Soukup. These challenges might include: difficulties processing visual information extreme difficulty in learning and retaining vocabulary (reading and spelling), reading difficulties, challenges with handwriting, disorders in attention, problems with organization and inappropriate social skills.
- Children with learning difficulties demonstrate extreme difficulties that are consistent and do not resolve over time or with strong, consistent intervention. For example, “Vocabulary will not grow the same way in a child who is deaf or hard of hearing,” says Heymann, “but this is not a learning disability.” Similarly, Elizabeth Adams, PhD, clinical psychologist at The River School in Washington, DC, suggests that, “If a child has a two-year language delay of course there would be some difficulties in an academic setting, but that doesn’t mean there is a learning disability.”
- Increased demands can unmask learning difficulties. “Some kids are really good at compensating in their environment,” says Adams, “and develop strategies that can get them by for a while.” The amount of struggle a child has will impact whether they are flagged with a learning disability and qualify for services. Sometimes there is not enough of a learning discrepancy.

This so-called “exclusion clause” in the Individuals with Disabilities Education Act (IDEA) serves as both a blessing and a curse when it comes to educating children who are deaf or hard of hearing. On the one hand, it prevents the automatic assumption of a learning disability thereby focusing attention on the specific accommodations and needs related to hearing loss. However, the exclusion clause has also been interpreted by many states to mean that the learning difficulties of children who are deaf or hard of hearing can only be the result of hearing loss and not a neurological dysfunction (Soukup & Feinstein, 2007). It is important parents know this clause is in the law so they are able to use this information when pursuing an Individualized Education Plan (IEP) with experts in hearing loss.

However, Linda Findlay, MED, the coordinator of Clarke’s Comprehensive Educational Evaluation Program at Clarke Northampton, observes that school district personnel seem to be attuned to the possibility of an additional disability and they are less likely to automatically attribute it to hearing loss. Findlay suggests this awareness is mainly due to early identification, early amplification and language intervention, and strong support services. But, she also believes that because itinerant teachers of the deaf are sent more frequently into school districts to support teachers, they are better educated about the effects of hearing loss on academic development. This has led to school personnel reaching out and saying, “We are concerned there may be an additional learning challenge, but we need someone who can tease out the hearing loss to help us determine if there is indeed a disability.”

“It’s important to realize that these learning disabilities would exist even if my son heard perfectly,” says Christina, mother of a sixteen-year-old with bilateral cochlear implants. “After a couple of false starts we were finally able to find a psychologist that was able to take his hearing loss into account. That diagnosis made all the difference in the world.”

If you suspect your child might have an additional learning disability it is critical to work with professionals who have experience working with students who are deaf or hard of hearing. “Students who are deaf or hard of hearing are such a heterogeneous population,” says Lois Heymann, director of the Steven and Shelley Einhorn Communication Center in New York City, “that any evaluator needs to know the variables that are involved in hearing loss, such as: How serious is the loss? When was the

child diagnosed? At what age were they aided? What about residual hearing? All these facets need to be taken into account as all that impacts what kind of therapy a child might need.” Additionally, it is important to note that assessments are normed on students who have typical hearing, and not students with hearing loss. This proves to be helpful when students with hearing loss are in mainstream settings, as these assessments show how they compare to their peers with typical hearing.



Rising to the Challenge: What Parents & Educators Need to Know

Although it is challenging to diagnose a child who is deaf or hard of hearing with a learning disability, this diagnosis is essential to ensure that a plan can be implemented to help them develop academically and emotionally. The frustration of having a child’s learning difficulties misdiagnosed is that interventions put in place will be neither appropriate nor helpful.

“Years of academic frustration and failure can not only hinder a child’s ability to develop skills that will lead to independence and mastery,” says Soukup, “but it can also hinder the development of

healthy self-esteem.”

The combination of hearing loss and learning disabilities presents a complex challenge to parents and professionals. However, none of the challenges are insurmountable as long as there is an awareness that hearing loss and learning disabilities can co-exist. As every child has unique needs, it is difficult to suggest a standardized approach to dealing with learning disabilities. It might take time, but it is important to find professionals that have experience working with students with hearing loss to make sure appropriate strategies are put into place.

RESOURCES

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Standardized Testing and Hearing Loss



Students with typical hearing are continually exposed to increasingly sophisticated language and vocabulary while growing up. Standardized tests, by design, assume that students have had this high exposure to language and that they have acquired an appropriate level of language proficiency for their age and grade level. The premise is essentially: “Based on everything you have learned about the world through your hearing, answer these questions.” A student who is deaf or hard of hearing is clearly at a disadvantage with such a premise.

A hearing loss affects a student in a variety of ways. One of the most profound impacts is the student's understanding and use of their native language. Even when a student is bright and has a wide range of knowledge, they may have difficulty with verbal skills, including reading comprehension, vocabulary development and the ability to manipulate language to understand and express abstract concepts. This is also true of students whose native language is not English and students with certain learning disabilities.

Before a student who is deaf or hard of hearing can correctly answer a question on a standardized test, there must first be an understanding of the question, which may be intentionally worded in a challenging and ambiguous way. And while the test-taker may not necessarily need to understand thoroughly every word, the

question is written on the assumption that the student has been exposed to, and has some working comprehension of, a large number of appropriately difficult vocabulary words and sophisticated language structures.

Experience has shown that for students who are deaf or hard of hearing, scores on most standardized tests may not accurately assess current achievement, aptitude or ability to progress. The only appropriate way to make use of such a test then, would be to go over it carefully, question by question, and analyze student responses. This interpretation would be more valid and useful than the numerical score.

Most schools require a student who is deaf or hard of hearing to take standardized tests at one time or another, either to measure achievement (basic skills tests) or to determine aptitude (SSAT, PSAT or SAT). If a student who is deaf or hard of hearing is required to take a standardized test, an untimed version should be used whenever possible. It is necessary to apply to the test administration ahead of time for this accommodation.

For this student, the verbal scores on such tests are apt to be fairly low. Unfortunately, such scores sometimes mislead people, including the student, into thinking that the low score accurately reflects their intellect and potential. All students who have difficulty with English will have the same problem with this kind of exam.

It is important for a student who is deaf or hard of hearing to understand these implications clearly before taking a standardized test, explaining that lower scores may not be accurate in estimating ability or achievement and that there are other ways to demonstrate or measure them.

It is equally important that the adults involved in using such tests take the time to look beyond the scores and analyze the student's performance from a deeper, more meaningful perspective. Greater emphasis should be placed on examining the student's academic record, effort and motivation, interests and achievements and teacher recommendations.

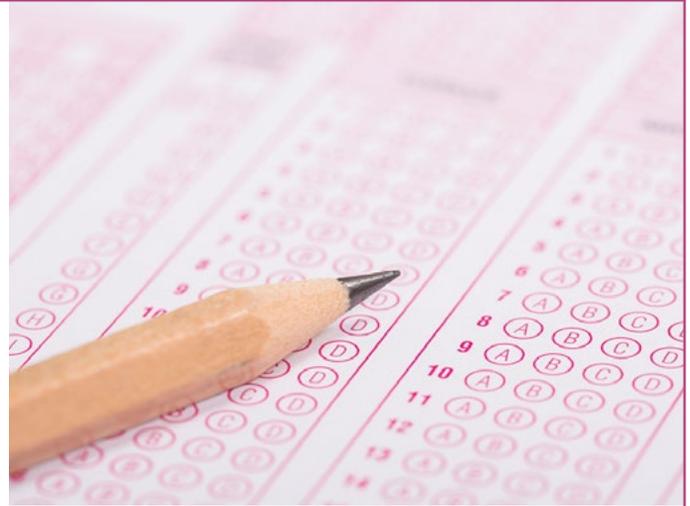
Points to Remember

- Standardized tests assume a certain level of English language sophistication to understand the questions, as well as to answer them.
- Accommodations need to be applied for in advance and often include a time extension, a copy of written instructions, preferential seating and the use of an interpreter. For information from The College Board, visit: <https://www.collegeboard.org/students-with-disabilities/documentation-guidelines/hearing-impairments>
- Scores are apt to be considerably lower than average for a student who is deaf or hard of hearing, typically under-predicting this student's true academic achievement and scholastic aptitude.
- Test scores cannot be taken at face value. A broader and more comprehensive examination of a student's achievements needs to be used to determine true academic ability and potential.
- When these tests are used in the process of applying to a school or college, many admissions programs will waive this requirement for a student with an educationally significant hearing loss.
- If an admissions program insists that the student take a standardized test, it will be important that they be accurately informed of the questionable validity and the reasons behind the scores.

Understanding Test Performance

It is common to hear from teachers that students who are deaf or hard of hearing have difficulty taking tests. They seem to know the information given in homework, they answer questions correctly in class, but when it comes time to take the written test, their performance often does not reflect their knowledge on a subject. There may be many reasons for this including:

- The student may have missed the announcement that there would be a test and therefore didn't prepare. It is good practice to always write these announcements on the board and to check in with the student to be sure there is an awareness about the test.
- The student knew about the test but didn't study enough. This can happen to any student. If this happens to your student, we believe the student deserves the grade achieved. Make-ups or re-takes should only be permitted if it applies to all students.
- The student knew about the test, studied hard but studied the wrong information. This can happen especially if no written guidelines were provided as to what to study. If you find this to be the case, it is helpful to plan a review system for the student prior to future tests.
- The student did a good job preparing, thoroughly studied the right information but still performed poorly on the test. This is probably because the format of the questions was confusing or unfamiliar to the student. For example, there may have been unfamiliar vocabulary or phrases in the question, so the student didn't know what was being asked. The underlined words in the test questions below are examples of words which students who are deaf or hard of hearing may not be familiar with. An explanation of these words and what is being asked would be needed before the questions could be answered accurately.
 - What kinds of experiences **usually benefit** an individual seeking to be President of the United States?
 - A short story differs from a **straight forward account** of a game in what specific ways?"
 - The **characteristics** of _____ are _____.
 - **Refute** this statement ...
 - All the following are true **except** . . .
 - **All but which one** of the following applies to . . .
 - Why was her **hunger for** knowledge so great?



Figurative expressions make our language richer and more interesting but students who are deaf or hard of hearing may not be familiar with them unless they are explicitly taught. Idioms, slang and other forms of our language that do not follow the literal meaning of the words pose a challenge. These expressions should not be avoided, rather they need to be taught since the students will continue to encounter them throughout their education and life!

So, how can you be sure you are testing your student's knowledge in a subject area and not their knowledge of and command of the English language?

1. Write the test questions the way you always do, but allow the student who is deaf or hard of hearing the opportunity to go through the questions before answering them, checking for understanding of what is being asked. This can be done in a one-to-one setting with the teacher of the deaf or a special education teacher. Or a classroom teacher may review the questions for the entire class, checking to be sure all students understand the questions. For example, "Why was her hunger for knowledge so great? simply means "Why was she so interested in learning?" This brief group discussion and simplification might help all the students without singling out the student who is deaf or hard of hearing.
2. Pass out the test to the class and then individually ask the student who is deaf or hard of hearing to tell you what each of the more difficult questions means. Clear up any misunderstandings.
3. Clarify unfamiliar vocabulary or text structures by writing a simplified explanation above the question on the student's copy of the test beforehand.
4. Have the student take the test after school with you allowing for the opportunity to orally answer questions.



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Clarke Schools for Hearing and Speech
provides children who are deaf or hard of
hearing with the listening, learning and spoken
language skills they need to succeed.

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This issue sponsored by

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Save the Date



Clarke's 40th Conference on Mainstreaming Children with Hearing Loss

(CMC) will take place on **October 24** and **25, 2019**
at the Hartford/Windsor Marriott Airport Hotel in Windsor, CT!

Call for Proposals: We invite you to share your ideas and expertise at Clarke's 40th Conference on Mainstreaming Children with Hearing Loss by submitting a proposal for a workshop. This year's theme is "Invest in Their Future!" Submit your proposal at clarkeschools.org/callforproposals.

Deadline for submission: **February 25, 2019**

Contact: fallconference@clarkeschools.org or call **413.587.7313** with questions.