

Education Evaluation and Neuropsychological Evaluation: What's the Difference?

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School Evaluation

- School Evaluation-- An evaluation for school purposes is defined by federal and state law. The Individuals with Disabilities Education Act (IDEA) provides the parameters for school evaluations. These parameters are further defined by federal and state regulations.

300 CFR §300.15: Evaluation means procedures used in accordance with §§300.304 through 300.311 *to determine whether a child has a disability and the nature and extent of the special education and related services that the child needs.*

Disability categories under IDEA

- Intellectual Disability
- Hearing Impairment
- Speech or Language Impairment
- Visual Impairment
- Emotional Disturbance
- Orthopedic Impairment

- Autism
- Traumatic Brain Injury
- Other Health Impairment
- Specific Learning Disability
- Deaf-Blindness
- Multiple Disabilities

(300 CFR §300.8(a))

So, according to federal and state regulations, the school must conduct an evaluation to determine whether a child has a disability in any of these categories.

But consider . . . How can a school assess whether a child has a

- Hearing Impairment?
- Visual Impairment?
- Orthopedic Impairment?
- Deaf-Blindness?

.

What about other categories?

- Intellectual Disability?
- Speech or Language Impairment?
- Emotional Disturbance?
- Other Health Impairment?
- Traumatic Brain Injury?
- Autism?

Can schools do an evaluation for these types of disabilities? How?

What else do regulations require for an evaluation?

- According to federal regulations, the determination of whether a child has a specific learning disability (SLD) must be made up of team that includes person qualified to conduct individual diagnostic examinations of children, such as school psychologist, speech-language pathologist or remedial reading teacher. However, there is no requirement that this person actually administer any tests.

- So-- determination of SLD could be made without any testing done at all.
- In fact, if school uses RTI for determination of SLD, child will not have any testing done.

- Pennsylvania regulations expand on the requirement for inclusion of school psychologist. According to §14.123, “the group of professionals, which reviews the evaluation materials to determine whether a child is a child with a disability . . . shall include a certified school psychologist when evaluating a child for autism, emotional disturbance, mental retardation, multiple disabilities, other health impairments, specific learning disabilities, or traumatic brain injury. However, it does not require that the school psychologist actually conduct any testing.

So, where does the need for testing or assessment instruments come from?

- §300.306(c) requires that, in making a determination of whether a child has a disability, and educational needs, the school must draw upon a variety of sources, including aptitude and achievement tests.
- But there is still no specific requirement that the school conduct individual testing. It could rely on tests administered school-wide, such as Otis Lennon, TerraNova, etc.

Although federal regulations do not require testing, it is implied throughout the regulations. The regulations require:

- Use of “a variety of assessment tools and strategies to gather relevant functional, developmental and academic information about the child
- School “may not use any single measure or assessment as the sole criterion” for disability determination

- School must also “use technically sound instruments that may assess the relative contribution of cognitive and behavioral factors”
- Assessment materials must not be discriminatory on a racial or cultural basis
- Assessment instrument must be administered in child’s native language

- Assessment instrument must be in “the form most likely to yield accurate information on what the child knows and can do academically, developmentally, and functionally”
- Assessment instruments must be used for the purposes for which the assessments are valid and reliable

- Assessment must be administered by trained and knowledgeable personnel
- Assessment must be administered in accordance with any instructions provided by the producer of the assessments

Additional assessment requirements:

- Assessments should include those “tailored to assess specific areas of educational need and not merely those that are designed to provide a single general intelligence quotient
- Assessment should be selected to ensure that, if administered to a child with impaired sensory, manual or speaking skills, the results accurately reflect the child’s aptitude or achievement level or other factors the test purports to measure

The child must be assessed in all areas related to the suspected disability. This includes:

- Health
- Vision
- Hearing
- Social/emotional status
- General intelligence
- Academic performance
- Communicative status
- Motor abilities

So, how do schools evaluate for all 12 areas of disability, when they are not equipped to do so?

Typically, there is a continuum of how much of the school's resources are put into an evaluation. Three general categories (note, these are observations, not required by statute or regulation)

Areas of disability in which school nearly always adopts the diagnosis of an outside medical professional:

- Hearing Impairment
- Vision Impairment
- Orthopedic Impairment
- Deaf-Blindness
- Multiple Disabilities

Areas where school often relies on diagnosis from outside medical professional, but sometimes does its own evaluation:

- Autism
- Other Health Impairment (often ADHD)
- Emotional Disturbance
- Traumatic Brain Injury

Areas in which school almost always does the full evaluation, with little or no reliance on outside medical professional:

- Specific Learning Disability
- Intellectual Disability
- Speech or Language Impairment

Why these 3 categories? Schools can use their own school psychologist or speech/language pathologist to do evaluation

Specific Learning Disability

What will an evaluation for a SLD entail?

- Evaluator should do an observation of the child in class, especially in the class in which the child is having the most difficulty

Specific Learning Disability

Evaluation for SLD should include child's academic history, including:

- Grades
- PSSA scores
- Curriculum based measurements, DIBELS, Aimsweb, etc.
- School-wide standardized, cognitive or achievement tests, such as Stanford, TerraNova, Otis-Lennon
- Some schools do pre-referral, standardized testing. If so, these results should also be considered.

Specific Learning Disability

Evaluation for SLD should also include input from teachers, including their observations and recommendations

Specific Learning Disability

Evaluation for SLD will almost always include an individually administered cognitive and achievement test.

Common cognitive tests:

- WISC-V
- Woodcock Johnson-IV Cog
- Stanford-Binet-V
- KABC-II
- DAS-II

Specific Learning Disability

Common Achievement Tests:

- WIAT-III
- Woodcock Johnson-IV Ach
- KTEA-3

Specific Learning Disability

Other, more specialized (but less commonly administered) achievement tests:

- GORT-5 (Reading)
- CTOPP-2 (Phonological Processing)
- WRMT (Reading and Phonological Processing)
- TOWL (Writing)
- KeyMath

Specific Learning Disability

Often, the evaluation for SLD will include a behavior rating scale. Most common:

- BASC-3
- Conners Comprehensive Behavior Rating Scales
- Achenbach

However, these scales will not be indicative of a SLD, but are designed to determine if there is a behavioral or emotional component to the child's academic difficulty

Specific Learning Disability

Some school evaluations will also include a rating scale for executive function problems. Common scales:

- BRIEF-2
- D-REF
- CEFI
- BDEFS

These rating scales are also not indicative of a SLD, but may indicate executive function problems, or ADHD

Specific Learning Disability

How is SLD determined?

- Pennsylvania still follows the severe discrepancy requirement for SLD, with very few exceptions. However, there is no mandate as to how to determine what is a “severe discrepancy.”
- The determination of a specific learning disability is typically made by comparing the cognitive ability (IQ) score with the score on the standardized, individual achievement test.
- If the achievement test score is significantly lower than the IQ score, the child usually will be found to have a SLD.

Intellectual Disability

- School psychologists often conduct the evaluation to determine if a child has an intellectual disability.

Intellectual Disability

ID determination typically requires assessment in two areas.

- Cognitive ability—IQ score should be 70 or below
- Adaptive behavior—Child must demonstrate significant impairment in adaptive behavior.

Intellectual Disability

Cognitive tests used are typically the same ones used for SLD determination.

Adaptive Behavior is usually assessed through an adaptive behavior rating scale. Common scales:

- Vineland-2
- ABAS-2

Speech or Language Impairment

Evaluation for a disability in speech or language impairment is usually conducted by the school's Speech Language Pathologist. Typically the SLP administers one or more tests measuring expressive or receptive language skills.

Additional testing, such as cognitive or achievement testing, may or may not be done. If so, it is usually done by the school psychologist.

Autism

- Because many children on the spectrum already have a diagnosis, schools usually just adopt the diagnosis from the outside psychologist. However, if an undiagnosed child is suspected of having autism, the school should conduct an evaluation. Sometimes schools often refuse to evaluate for autism, saying that autism is a “medical diagnosis.”

Note that the medical definition (DSM-V) of autism and the definition of autism under IDEA are not identical. So it is possible that a child could meet the criteria for one but not the other.

Autism

School evaluation of autism typically involve:

- In-depth developmental history
- Cognitive assessment
- Achievement assessment
- Observation in both structured and unstructured environment
- Behavior rating scales (teacher and parent), such as BASC-2, SRS-2 AND SSIS
- Autism-specific rating scales, such as GARS-2, ASDS, or GADS. ASRS is preferred rating scale.

Autism

- Structured observation rating scale, such as CARS-2
- ADOS-2

Emotional Disturbance

Schools typically do not classify a child as ED without an outside diagnosis from a mental health professional. For a child to be considered ED, they usually have displayed behavioral or emotional problems at home and have been seen by a mental health professional. For school evaluation, schools will supplement with rating scales, such as:

- BASC-2
- Individual rating scale for depression or anxiety

Other Health Impairment (OHI)

ADHD falls under OHI, so it is common to see children with this classification. Many schools are reluctant or unwilling to determine that a child has ADHD without an outside medical diagnosis. Schools might do a screening and recommend that parents seek an outside evaluation.

OHI

Screening tools for ADHD:

- Behavior rating scales
- Executive function rating scales
- ADHD-specific rating scales, such as Conners-2; Brown ADD Rating Scales; ADDES-3;
- Continuous performance test (Conners CPT-3; TOVA)
- Some schools will do executive function testing for children, such as NEPSY-II and D-KEFS

School Evaluation

All school evaluations, regardless of type of disability, must determine whether the child is in need of special education and related services. So, in addition to determining whether a child has a disability, the evaluation must also seek to determine whether the child needs special education services. If the child is found to be in need of special education, the evaluation should also seek to answer what type of curriculum, supports, interventions, etc. are needed to provide FAPE.

School Evaluation

To get an IEP, regardless of type of disability, and even if an evaluation is conducted by an outside professional, such as a neuropsychologist, the school must conduct its own evaluation. It may simply adopt the conclusions of the outside diagnosis, but it still must determine what the child's needs are and how the school can support that child's needs to receive FAPE.

Neuropsychological Evaluations

What is neuropsychology?

- Neuropsychology is a branch of psychology that is concerned with how the brain and the nervous system influence a person's cognition and behavior. It focuses on how illnesses or injuries of the brain affect cognitive functions and behavior.

Neuropsych Eval

When would you seek a neuropsychological evaluation for a school-aged child?

- Child with a known or suspected neurological disorder
- Child who has sustained head injury, TBI, or concussion
- Child with acquired or congenital brain damage

Neuropsych Eval

- Child with neuromuscular disease
- Child with brain tumor
- Child with nervous system infection or compromise
- Child with neurodevelopmental risk factors
- Child with a rapid drop in academic achievement not explained by social, emotional or environmental causes

Neuropsych Eval

- Child who does not respond to evidence-based interventions
- Child with suspected processing weaknesses
- Child with significant scatter in psychoeducational test performance.

Neuropsych Eval

The human brain is an extremely complex organ comprised of multiple systems and “suborgans” that are responsible for every physical, sensory, emotional and cognitive response or action that we humans are able to perform. A neuropsychological evaluation can help to pinpoint the specific area or areas of brain function that are causing the child problems.

Neuropsych Eval

What do neuropsychologists test? They often use a hierarchical approach to analyzing brain function and its effect on behavior and cognition. They start with the most basic of functions (sensory, i.e. hearing, vision, touch) and progress through higher-level thinking skills.

Neuropsych Eval

- Most Basic—Sensorimotor Functions
 - Vision, including visual-motor coordination, visual scanning
 - Fine and gross motor coordination
 - Hearing, including sound and pitch discrimination

Neuropsych Eval

- Cognitive Processes
 - Visual/Spatial processing
 - Sound Discrimination
 - Auditory/Phonological processing
 - Learning and Memory (working memory; immediate and delayed visual, verbal and associative memory)
 - Executive Functions (cognitive flexibility; concept recognition and generation; problem solving; response inhibition)
 - Semantic Memory

Neuropsych Eval

- Language Abilities (Expressive and receptive language)
- Reading Achievement (Phonological, orthographic and morphological decoding); reading comprehension
- Written Language (written expression; expository composition; spelling; handwriting)
- Mathematics (Calculation and reasoning)

Neuropsych Eval

- Allocating and maintaining attention (selective auditory/visual attention; attentional capacity)
- Cognitive Processing (speed and efficiency of visual and verbal processing; retrieval)

Neuropsych Eval

Typically, a neuropsychological evaluation will start with input from the child's parents and, perhaps teachers, to get a broad idea of how the child is experiencing difficulty and under what circumstances it occurs. The neuropsychologist will usually perform a wide variety of tests that measure all suspected areas of brain dysfunction.

Neuropsych Eval

Common neuropsychological tests:

- Dean Woodcock Sensory Motor Battery (Sensory Motor functions)
- Halstead-Reitan
- NEPSY-II—broad array of neuropsychological functions
- Woodcock Johnson IV Cog (concept formation; processing; memory; auditory/phonological processing)

Neuropsych Eval

- WISC-V & WISC-V Integrated
- DAS-II
- KABC-II
- DKEFS (Executive Function)
- TOMAL-II (Memory)
- WRAML-2 (Memory)
- CTOPP-2 (Phonological Processing)
- Rey-Osterreith Complex Figure Drawing

Neuropsych Eval

- Purdue Pegboard
- Wisconsin Card Sort
- Trail Making Tests
- Stroop Color-Word Test
- Tower of London
- Conners Continuous Performance Test-2
- TOVA

Neuropsych Eval

How are neuropsych evaluations used in schools?

- Use of neuropsych evaluations in schools varies on the school, the evaluator and the child.
- However, the school is not required to accept the results /recommendations of a neuropsychologist.

Neuropsych Eval

- If the neuropsychologist can link the test performance deficiency with a particular psychological process and explain how it affects the child's academic performance or in-school behavior, it is much more likely that the school will accept the results and implement interventions/accommodations

Neuropsych Eval

In fact, if the neuropsychologist can pinpoint the precise area(s) of deficit, recommendations for interventions and accommodations should become apparent. The school and parents don't need to implement a huge array of curriculum/interventions, hoping one will work. After the neuropsych evaluation, there should be a pretty good idea of what will work. This is the primary benefit of having a neuropsychological evaluation.

Neuropsych Eval

Unfortunately, neuropsych evaluations often do not indicate how deficiency in neuropsych test performance affects school performance.

Therefore, teachers, and administrators don't know how to use the information to help the student.

Neuropsych Eval

Example:

“His performance on a task which required him to generate words on the basis of a phonemic cue was significantly impaired. His performance on a task which required him to generate words on the basis of a semantic cue was also similarly impaired. . . . His performance on a visual abstract problem solving task was significantly impaired. He could solve none out of a possible 6 categories. His performance on a visual motor scanning and sequencing task was in the average range for the single sequence aspect of the task and in the below average range for the double alternating sequence aspect of the task.”

Neuropsych Eval

Example:

“Comparative immaturity was expressed under conditions maximally stressing fine-grained graphomotor control. . . . Whereas fluid-efficient performances had been demonstrated on the Block Design subtest, noteworthy inconsistencies were expressed on the puzzle assembly demands of the Object Assembly subtest. . . . Thus, as opposed to highlighting any obvious limitations in information processing that might be attributable to a underlying developmental learning problem, the variance associated with his Wechsler Scale outcomes appears attributable to immaturity in his expression of attentional resources.

Neuropsych Eval

Although this type of verbiage may be necessary to substantiate the findings and conclusions, it is not very helpful as is. Few teachers or parents understand what these findings mean from a practical standpoint. At some point, there needs to be a linkage to practical, real-life performance, as well as suggestions that teachers and parents can readily implement.

A Third Way—School Neuropsychology

School Neuropsychology is an emerging field which seeks to combine the practice of school psychology and neuropsychology. Primary program is through KIDS, Inc., which offers a year-long program in school neuropsychology.

School Neuropsych

Practitioners of School Neuropsychology use the testing and assessment practices of neuropsychology. However, rather than merely describe what areas or processes of the brain are deficient, school neuropsychology practitioners link the deficiency with real-life examples of behavior or academic difficulty. Based on this linkage, they offer interventions/accommodations that can either improve the actual brain function or “work around it” so the child can be successful in school.

School Neuropsych

School neuropsychologists will also assess for behavioral/emotional problems. Common areas of assessment:

- ADHD
- Depression
- Anxiety
- Autism
- ODD/CD

School Neuropsych

- GORT-5 (Reading Fluency and Comprehension)
- FAR (Reading Diagnostic)
- KeyMath-3
- TOWL-4

School Neuropsych

Features of a school neuropsych evaluation:

- Extensive background information from parents and teachers
- In-school observation
- Checklist of presenting behaviors or academic difficulties
- Based on the information from parents and teachers, testing is conducted to determine difficulty or severity of impairment of cognitive processes

School Neuropsych

Testing typically involves assessment of the most basic sensory processes through higher-level, complex thinking and problem solving

School Neuropsych

Common School Neuropsych tests:

- Dean Woodcock Sensory Motor Battery (Sensory Motor functions)
- NEPSY-II—broad array of neuropsychological functions, including sensory motor, attention, memory, executive function, visual spatial, phonological processing
- Woodcock Johnson IV Cog (concept formation; processing; memory; auditory/phonological processing)

- WISC-V & WISC-V Integrated (verbal problem solving, visual spatial, fluid reasoning, memory, processing speed)
- DAS-II (verbal problem solving, visual spatial, fluid reasoning, memory, processing speed, phonological processing)
- KABC-II (memory and learning, crystallized intelligence, visual and verbal problem solving)
- DKEFS (Executive Function)
- TOMAL-II (Memory)
- WRAML-2 (Memory)

School Neuropsych

- CTOPP-2 (Phonological Processing)
- Rey-Osterreith Complex Figure Drawing (executive function)
- Wisconsin Card Sort (executive function)
- Conners Continuous Performance Test-2 (Attention)
- TOVA (Attention)
- Test of Everyday Attention for Children (TEACH) (Attention)

School Neuropsych

School Neuropsychology practitioners also look at academic achievement. Common tests for academic achievement:

- WIAT-III
- WJ-IV Ach
- KTEA-3
- WRMT (Reading Diagnostic)
- CTOPP-2 (Phonological Processing)

School Neuropsych

Based on information from teachers, parents and test results, practitioners of school neuropsychology attempt to pinpoint the cognitive processes that are causing the behavioral or academic concern, link it to the child's difficulty in school and recommend curriculum/interventions and accommodations that can help the student.

Example of School Neuropsychology Report:

Current testing results suggest Olive's reported difficulties with reading fluency may be related to difficulty with rapid Phonological Decoding, which fell at Slightly Below Expected levels. Olive was able to correctly decode nonsense words, but at a slower rate than her same-aged peers. Olive's ability to correctly pronounce words quickly when the suffix was changed was average; this may suggest that once Olive "learns the task", and knows the root word, she is more able to quickly decode just the suffix. Olive demonstrated the ability to correctly spell words and write letters with fluency, but the total number of words she wrote across items was Slightly Below Expected levels.

Example of School Neuropsych Report (cont)

Olive fluently completed multiplication problems, but in contrast, struggled to fluently complete simple addition and subtraction. Currently, Olive has more practice with multiplication problems and therefore may have been able to retrieve the immediate knowledge more fluently than addition and subtraction, which hasn't been the focus for several years. Olive's performance across measures suggests that recent and repetitive practice improves her performance, which otherwise is impacted by a weakness in rapid automatic naming and retrieval. Generally Olive has difficulty quickly accessing words for reading, sharing her thoughts on paper, or accessing math facts.

School Neuropsych

Caveat: Psychologists trained in school neuropsychology do not have the extensive training in neuropsychology that neuropsychologists have. Although school neuropsychology can be very useful in getting appropriate curriculum and accommodations for a child, there are situations in which a full neuropsychological exam is warranted.