

# Specific Learning Disabilities Evaluation Principles and Standards



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## Specific Learning Disabilities Evaluation Principles and Standards

### Executive Summary

Specific learning disability (SLD) is defined in the Individuals with Disabilities Education Improvement Act (IDEIA) as, “a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations” (2004). Organizations outside of the United States frequently cite this definition, and the term is also referenced in the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (American Psychiatric Association Publishing, 2022).

Despite clear policy commitments in the US and in countries around the world for the inclusive education of students with SLD (IDEIA, 2004; UNESCO, 1994, United Nations, 2006), persistently low student achievement data indicate that little progress has been made toward meeting the instructional needs of students with SLD (Wagner et al., 2006). Too many children are not properly evaluated or, when evaluated, show little response to the resulting interventions. Too many evaluations provide little guidance for educators to address the student’s difficulties (King, et al., 2023; Umaña, et al., 2020).

Students with SLD represent 32% of the K-12 student disability population (National Center for Education Statistics, 2023). The most current NAEP data indicates that, compared to students without disabilities, students with disabilities are profoundly behind their peers without disabilities. On average there was a gap of 38.5% between students with disabilities and students without disabilities who scored below basic in 4<sup>th</sup> and 8<sup>th</sup> grade reading. For mathematics, 36% more students with disabilities scored below basic in 4<sup>th</sup> and 8<sup>th</sup> grades compared to students without disabilities. Although NAEP data disaggregated by specific disability category are not readily available, there are some disaggregated state-level data available. For example, Florida has disaggregated statewide performance data on multiple indicators, including disability indicators. During the 2021-2022 academic year only 17% of students with SLD performed at basic or above in mathematics, compared to 53% of their peers without disabilities (a 32% gap).

Further inequities for students with SLD come to light when we attend to race. US students who identify as Black/African American, Latinx, and Indigenous have been unacceptably marginalized when it comes to the identification and intervention/instruction process for disabilities, including SLD, when compared to white students (e.g., Artiles, et al., 2006; Blanchett, 2010; McLaughlin et al., 2008; Molett, 2013, Skiba et al., 2008). For example, there are significant achievement gaps in mathematics achievement between students with disabilities who are white compared to their Black and Latinx peers (e.g., Geary, 2004; Wei, et. al., 2013).

Given these dismal data, an interdisciplinary team of researchers and practitioners partnered with an international association for learning disabilities to develop new SLD Evaluation Principles and Standards. Current educational contexts both in the US and internationally demand that evaluations not only identify causes of learning differences and difficulties but also identify potential solutions. We move away from a process where decisions are based on eligibility or

categorizing students into tiers with one-size-fits-all intervention programs toward a movement where an individual's specific learning and social-emotional needs are truly addressed.

The purpose of these new, interdisciplinary Principles and Standards is to provide a guide for best practices in the evaluation and identification of SLD. The standards outline a process professionals can use to develop a comprehensive evaluation and written report that describe: the nature of the specific learning disability; the area and levels of impairment; subject areas and personal areas of strengths; cultural and linguistic diversity of the student; and specific considerations for practitioners to develop individualized interventions designed to meet the unique academic, linguistic, social, emotional, and behavioral needs of the student.

The IDEIA (2004) has long required that comprehensive evaluations be completed by *multidisciplinary* evaluation teams. We propose that this mandated process be enhanced by going beyond static, isolated input from individual team members. These standards emphasize that a truly comprehensive evaluation of SLD requires an *interdisciplinary* team working in collaboration to understand the student's individual strengths and needs (e.g., psychologists, parents and caregivers, the student themselves, teachers, speech and language pathologists, school counselors, and health providers). We argue for a process of bidirectional and iterative communication in which information is gathered about developmental, academic, social, cultural and language factors, health, and behavioral/emotional functioning from parents/caregivers, teachers, and the student to inform the assessment and evaluation process. Teachers contribute formative and progress monitoring data that provide insight into *what* and *how* the child is learning. Their information informs the selection of standardized assessments of academic, cognitive, and linguistic functioning. Importantly, the teacher's data provide the context in which the information obtained from standardized assessments is interpreted, thereby connecting the evaluation to the student's educational milieu. Tests do not diagnose disorders or identify SLD; clinicians make the diagnoses. Without interdisciplinary collaboration and understanding of the student's educational context, the likelihood of errors is significant.

The SLD Principles and Standards presented in this document are the product of a yearlong interdisciplinary, research-based collaboration between professional representatives/ambassadors from the fields of school psychology, cognitive psychology, speech and language pathology, special education, literacy, mathematics education, and medicine. It is our hope that scholarly discourse around these research-informed Principles and Standards will lead to an increased capacity to meet the needs of students with SLD, especially for those students who are culturally, racially, and linguistically diverse.

## Introduction

Despite clear policy commitments for inclusion, persistently low student achievement data indicate that little progress has been made toward meeting the instructional needs of students with specific learning disabilities (SLD). Too many children are not properly evaluated or, when evaluated, show little response to intervention. Many evaluations do not accurately inform individuals of the reasons for their challenges or provide guidance for educational interventions intended to address their difficulties. Currently, students with SLD represent 32% of the K-12 student disability population (National Center for Education Statistics, 2023). Historically, outcomes for students with specific learning disabilities, as well as students in all IDEA disability categories, have consistently been poor compared to students without disabilities. The most current National Assessment of Educational Progress (NAEP) data indicates that, compared to students without disabilities, students with disabilities are profoundly behind their peers without disabilities. For example, 2022 NAEP data indicate that in reading, 70% of fourth grade students with disabilities scored below basic compared to 32% of their peers without disabilities. In eighth grade, 64% of students with disabilities scored below basic compared to 25% of their peers without disabilities. In mathematics, 53% of fourth grade students with disabilities scored below basic compared to 20% of their peers without disabilities. In eighth grade, 72% of students with disabilities scored below basic compared to 33% of their peers without disabilities (Irwin et al., 2023).

An additional concern to highlight is that NAEP data, consistent with most publicly available achievement data, are not disaggregated by disability category. As a result, it has been difficult to determine more specifically the extent of the achievement gap for students with SLD at a national level. However, there are some state-level data available that are disaggregated by disability category. For example, the state of Florida has disaggregated statewide performance data on multiple indicators, including disability indicators (<http://edudata.fldoe.org/>). During the 2021-2022 academic year only 17% of students with SLD performed at basic or above in mathematics, compared to 53% of their peers without disabilities (a gap of 32% points). Moreover, of all disability categories listed (i.e., Orthopedic Impairments, Other Health Impairments, Speech and Language Impairments, Traumatic Brain Impairments, Intellectual Impairments, Autism Spectrum Disorders, Hospital Bound, Emotional & Behavioral Disorders, Visual Impairments, and Dual-Sensory Impairments) only students with intellectual disabilities scored lower at 5%. Students with SLD in Florida have performed in the bottom third of all disability categories since the 2014-2015 academic year, the earliest year these state level data are reported. A meta-analysis by Gilmour and colleagues (2019) on the reading achievement gap between students with and without disabilities, revealed that students with SLD on average performed 1.44 standard deviations, approximately four grade levels, below students without disabilities. Together, these data point to an alarming persistent lack of success experienced by students with disabilities generally and students with SLD specifically, reflecting a system that falls far short of the inclusive mandate for every child to receive a world-class education (Gilmour et al., 2019). It is imperative that we re-examine every aspect of inclusive practices for students with SLD, starting with the evaluation process.

In response to that need, the LDA developed the SLD Evaluation Principles and Standards to provide guidelines to address the needs of all struggling students. Every type of evaluation, from comprehensive assessments to progress monitoring, must address multiple domains of challenges and strengths of the individual. A moral and ethical imperative demands that evaluation systems not only identify causes of learning differences and difficulties but then also identify potential support and solutions. The result should be a movement away from a process where decisions are based on eligibility or categorizing

students into tiers with one-size-fits-all intervention programs toward a movement where systems are designed to truly address the individual's specific learning and social-emotional needs.

This paper and the associated *LDA SLD Evaluation Principles and Standards* were developed to build upon two previous policy papers, one from the National Joint Committee on Learning Disabilities, *The Use of Response to Intervention to Inform Special Education Eligibility Decisions for Students with Specific Learning Disabilities* (<https://njcld.org/2020/09/21/the-use-of-response-to-intervention-to-inform-special-education-eligibility-decisions-for-students-with-specific-learning-disabilities/>) and a one from the Learning Disabilities Association of America, *Core Principles: Response to Intervention (RTI)* (<https://ldaamerica.org/response-to-intervention-rti/>). To this end, it is LDA's position that the *LDA SLD Evaluation Principles and Standards* align with the principles related to RTI espoused in these two papers. However, LDA also recognizes that law and policy relative to eligibility and SLD may change over time and that these principles and standards are envisioned to be relevant regardless of the future legislative and policy context. Indeed, this paper and associated principles and standards are meant to be a living and breathing document, to be enhanced as future law, policy, research, and practice further inform an improved SLD evaluation process.

The purpose of these standards is to guide best practices for the evaluation and identification of specific learning disabilities. The standards will guide professionals in developing a comprehensive evaluation and written report that describes the nature of the specific learning disability, the area and levels of impairment, and specific considerations for practitioners to develop individualized interventions designed to meet the unique academic, linguistic, social, emotional, and behavioral needs of the student.

In educational settings, the evaluation of specific learning disabilities is typically the purview of school or educational psychologists and diagnosticians. These standards make clear that a truly comprehensive assessment of SLD requires an *interdisciplinary* team working in collaboration to understand the student's individual strengths and needs. Psychologists, parents and caregivers, teachers, speech and language pathologists, school counselors, health, and other service providers including students themselves all have important contributions to make to the evaluation-to-intervention process. IDEA has long required that comprehensive evaluations be completed by multidisciplinary evaluation teams (Individuals with Disabilities Education Act, 2004). We propose that this mandated process be enhanced by going beyond static, isolated input from individual team members. An interdisciplinary process demands authentic communication between team members. We argue for a process that is bidirectional and iterative in nature with information gathered about developmental, academic, social, health, behavioral/emotional functioning as well as cultural and linguistic factors from parents and caregivers, teachers, and the student to inform the assessment and evaluation process. Teachers contribute data from classroom-based observations, assessments, screeners, and progress monitoring measures that provide insight into what and how the child is learning or struggling to learn. Their information informs the selection of standardized assessments of academic, cognitive, and linguistic functioning. Importantly, the teacher's data, observations, and other documentation can provide the context in which the information obtained from formal, standardized assessments (administered by psychologists, diagnosticians, speech-language pathologists, occupational therapists, health care professionals and others) will be interpreted, thereby connecting the evaluation to the student's educational milieu. Tests do not diagnose disorders or identify specific learning disabilities; clinicians make the diagnoses. Without interdisciplinary collaboration and understanding of the student's educational context, the likelihood of errors is significant.

Learning disability evaluation and identification varies from country to country, state to state, district to district and even school to school. Variations in state- specific regulations, district-specific interpretations of state regulations that guide evaluators, professional training/development of evaluators, and individual evaluator preference can result in students qualifying for services in one school but not in another. We acknowledge this is very real and has very consequential problems, and we are not suggesting there is an easy resolution. As stated above, the goal is to inform best practices. There is nothing in the evaluation framework proposed in these standards that is incompatible with current IDEA regulations. We believe that even when state or school district processes and rules related to eligibility determination are inflexibly defined, there is ample room to implement these standards so that evaluations and reevaluations result in a better understanding of the student including their strengths and their needs, regardless of whether they might qualify for special education services.

Additionally, the evaluation and identification of specific learning disabilities cannot be viewed through a US-centric lens. We must ensure that the SLD Evaluation Standards are informed by a global view, from perspectives of and documents developed by stakeholders internationally.

***In light of the goal of this document***, we first provide context as a foundation for the development of the SLD Principles and Standards. We believe this is important so that readers understand the salient history and issues associated with the evaluation and identification of SLD that have been considered in the development of these principles and standards. Our discussion of this history, the research on SLD and the current state of assessment and evaluation guided the development of seven guiding principles for the SLD evaluation and associated standards. It is important to note that this document is meant to be a “living and breathing” document that can be enhanced as new understandings come to light regarding the effective evaluation and identification of SLD. To this end, we begin with a summary of the origins of the term “learning disability” (SLD), similarities and differences in terms and definitions used to describe SLD from an international perspective and share a common language regarding SLD that attempts to respect global nuances. Next, we discuss pertinent historical differences of thought among stakeholders related to the construct of SLD as well as the evaluation and identification of SLD. Then, we make an argument for the importance of the integration of cognitive assessments in the SLD evaluation process, including best practices. With this contextual foundation, we propose a model for the SLD Evaluation process, including a set of guiding principles, components of the evaluation, and next steps we believe are needed to enhance the SLD Evaluation process for the future.

### **Specific Learning Disabilities: History, Terms, and Definitions The United States**

In 1963, at a conference convened by the Fund for the Perceptually Handicapped, Dr. Samuel Kirk proposed the use of the term *learning disabilities* “...to describe a group of children who have disorders in development in language, speech, reading, and associated communication skills needed for social interaction” (Kirk, 1963, p. 2). Dr. Kirk noted that students with learning disabilities are distinct from students whose academic difficulties stemmed primarily from sensory impairments and generalized mental retardation (now intellectual disabilities; Kirk, 1963; Kirk, 2014). Kirk and other researchers and professionals at the conference considered students with learning disabilities unique in that they clearly demonstrate the intellectual abilities to achieve academically but nonetheless continue to struggle, often in only one specific academic area.

It was at this same conference that the Learning Disabilities Association of America was founded. According to Dr. Kirk's historical note, a group of approximately 200 parents from various organizations across the United States and Canada decided to form a single national organization to represent the interests of their children who struggled to learn to read, write, or calculate despite their intelligence and capability to learn other things. This group rejected labels such as "brain injured" and "perceptually handicapped" and voted at a meeting that lasted into the "wee hours of the morning", to form the Association for Children with Learning Disabilities (ACLD) (Kirk, 2014, p.2). Later, in recognition of the lifelong nature of learning disabilities, the name was changed to the Learning Disabilities Association of America. Through the early advocacy of these parents and researchers such as Samuel Kirk, federal grant monies were first made available to colleges and universities in 1964 for the purpose of preparing teachers of students with "learning disabilities". This occurred despite the conspicuous absence of any mention of specific learning disabilities in Public Law 88-164, which established a federal Office for Handicapped Children. One requirement of this law was the establishment of the National Advisory Committee on Handicapped Children. Among this group's recommendations was a definition of learning disabilities:

Children with special learning disabilities exhibit a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written languages. These may be manifested in disorders of listening, thinking, talking, reading, writing, spelling, or arithmetic. They include conditions which have been referred to as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia, and so forth. They do not include learning problems which are primarily due to visual, hearing or motor handicaps, to mental retardation, emotional disturbance or to environmental disadvantage. (NACH, 1968 as cited in Kirk, 1981, p. 3)

The above definition, with minimal edits, made its way into PL 94-142, the federal legislation in the US that would eventually be known as the Individuals with Disabilities Education Act (IDEA). The definition survives today in the most current reauthorization of the law, the Individuals with Disabilities Education Improvement Act (IDEIA):

(i) General. Specific learning disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.

(ii) Disorders not included. Specific learning disability does not include learning problems that are primarily the result of visual, hearing, or motor disabilities, of intellectual disability, of emotional disturbance, or of environmental, cultural, or economic disadvantage. (Individuals with Disabilities Education Improvement Act, 2004)



In the years since SLD was recognized and included in IDEA, research has continued and there is now recognition of SLD across the globe. In reviewing the research and various definitions of SLD it is evident there is growing consensus on the existence of these disorders and the key diagnostic features. Organizations outside of the United States frequently cite the definition of SLD in IDEA. The term is also referenced in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR):

Difficulties learning and using academic skills, as indicated by the presence of at least one of the following symptoms that have persisted for at least 6 months, despite the provision of interventions that target those difficulties:

1. Inaccurate or slow and effortful word reading [...]
2. Difficulty understanding the meaning of what is read [...]
3. Difficulties with spelling [...]
4. Difficulties with written expression [...]
5. Difficulties mastering number sense, number facts, or calculation [...]
6. Difficulties with mathematical reasoning [...]

The affected academic skills are substantially and quantifiably below those expected for the individual's chronological age, and cause significant interference with academic or occupational performance, or with activities of daily living, as confirmed by individually administered standardized achievement measures and comprehensive clinical assessment. (American Psychiatric Association, 2022)

## **An International Perspective**

SLD are often referred to by different terms depending on the field of study or the country where a person resides. This makes it confusing when trying to reach a consensus on the specific factors that define these neurodevelopmental challenges. Furthermore, this confuses parents when searching for information and may even yield incorrect information because these labels vary from one professional and/or one country to another. For example, the National Institute of Child Health and Human Development in the US uses the terms *Learning Disability*. The Learning Disability Association of America also uses the terms *Learning Disability* or *Specific Learning Disability*. In the medical field, the term used by the American Psychiatric Association's DSM-5-TR is a *Specific Learning Disorder*. The World Health Organization recently released the latest version of the International Classification of Diseases (ICD-11) which settled on the term *Developmental Learning Disorder*. In the US, the legal term for these types of difficulties is *Learning Disability*. However, in other countries such as the United Kingdom, the National Association of Disability Practitioners (NADP) uses the term *Specific Learning Difficulty*. The main difference between these terms is the way these words - disability, difficulty and disorder - are interpreted. In the countries that abide by the US terminology (specific learning disability, learning difficulty, or specific learning disorders) the diagnostic criteria explicitly state that the symptoms are *not the result of intellectual disabilities*. On the other hand, some countries use the term *specific learning difficulty* (e.g., UK, Argentina, and others) to describe SLD. They use the term *learning disability* to

describe individuals with global intellectual delays rather than the term intellectual disability commonly used in the US and established as a disability category in the IDEIA. Table 1 summarizes some of the terms used for SLD internationally.

**Table 1.** Terms used by different countries for SLD.

	Specific Learning Disability	Specific Learning Disorder	Learning Difficulties	Developmental Learning Disorder	Learning Disability	Dyslexia	Specific Reading Disorder	Dyscalculia
Australia	X							
Canada	X							
Denmark						X		
Egypt					X			
Germany						X		X
Hong Kong	X		X			X		X
Japan						X	X	
Netherlands						X		X
Singapore					X			
Taiwan					X			
United Kingdom			X			X		
United States	X	X				X		X

### A Common Language

It is LDA's position that a comprehensive SLD evaluation process must be informed by an international perspective using a common language. The disorders targeted by these evaluation standards differ across the globe. As shown in Table 1, in some places, including the United States, different terms are used in different contexts. For the purposes of these standards, we will refer to *Specific learning disorders*, *developmental learning disorder*, *specific learning disability*, and *specific learning difficulty*

interchangeably by the initials **SLD** to avoid confusion. Thus, the terms used to label SLD are defined as follows: *disorders in one or more basic psychological processes that may manifest itself as an imperfect ability in certain areas of learning, such as reading, written expression, or mathematics (LDA, 2012).* SLD is an umbrella term that covers a range of neurologically based disorders in learning. SLD impact academic skills such as reading, writing, mathematics and using oral language. The interchangeable use of **these terms** in this document **does not imply that the person has low cognitive abilities, an intellectual disability (DSM-5-TR) or mental retardation (ICD-11).** The DSM-5-TR (2022) states that for someone to meet diagnostic criteria for an SLD, their academic achievement must be *substantially and quantifiably below expectation for age.* Furthermore, these symptoms must *affect the individual's performance significantly* in their attainment of academic or occupational performance or activities of daily living. The DSM-5 further indicates that the impact on quality of life should be confirmed by the administration of standardized achievement measures as well as a comprehensive clinical assessment.

## Cognition, IQ and SLD

### The Discrepancy Model

Since Barbara Bateman introduced the concept in 1965, the notion of a 'discrepancy', defined as, "...markedly below what would be expected for chronological age and general level of intellectual functioning..." (World Health Organization, 2022) has been central to the identification of SLD. Indeed, it was this model of SLD identification that was included in US PL. 94-142 in 1975 and guided SLD identification and eligibility for special education services for more than three decades. Catts and Kamhi noted "...among exclusionary factors, intelligence has been given the most attention by practitioners" (Catts & Kamhi, 1999, p. 60). In this context, the Intelligence Quotient (IQ), is taken to represent a statement of a person's overall intellectual ability, which is based, most commonly, on an arithmetic average of a person's scores on several tests of ability. To be diagnosed with SLD, an individual had to demonstrate a significant difference between general mental abilities, as measured by IQ, and academic achievement. This discrepancy approach was said to distinguish between individuals with SLD, who achieve at a level much lower than expected, and struggling learners generally, whose levels of achievement are consistent with what would be expected based on their intellectual abilities (Mercer et al., 1996).

Despite being the singular method available to identify SLD, the ability-achievement discrepancy model had its detractors almost from the start. Many prominent researchers in the field expressed their dissatisfaction and rejection of such an approach (Busch et al., 2015; Lyon et al., 2001; Siegel, 1989; Stanovich, 1994). The logic of the canonical model of IQ and IQ discrepancy is built on the assumption that IQ scores measure an individual's inherent potential. However, research has made it clear that measures on an IQ test are just as apt to provide a metric of educational opportunities (Ritchie & Tucker-Drob, 2018; Siegel & Himel, 1998). There is evidence that ability-achievement discrepancy models over-identify Black students with SLD (Izumi et al., 2019). Flowers, Meyer, Lovato and Wood (2001) report Thorndike's (1963) caution that "IQ scores are only appropriate as estimates of current levels of functioning, not as estimates of future potentials" (Flowers et. al 2001, p. 52). Additionally, several studies found an IQ-reading discrepancy criterion does not differentiate between the reading skills of different groups of poor readers and has no obvious implications for differential teaching strategies (e.g., Mather, 1998).

In response to the growing concerns of researchers, the US Congress enacted new standards for the identification of SLD. The 2004 IDEIA no longer required states to use an ability-achievement discrepancy method and added the options of using a response to intervention (RTI) method as well as the use of other alternative research-based procedures for determining whether a child has a SLD. Response to intervention approaches to the identification of SLD focus on the degree to which the student has responded to “scientific, research-based intervention.” Patterns of strengths and weaknesses (PSW) approaches have come to define the third option of “other alternative research-based procedures”. While the US Congress no doubt had the best of intentions in making these changes, the result has seemed to increase confusion about SLD evaluation and identification. While states have historically had the freedom to operationalize exactly what constituted a severe discrepancy, the ability to select from three identification methods or a combination of these methods has only increased the chances that a student identified under the SLD category in one state, district or school may not meet criteria in another state, district, or school. Indeed, a 2019 Government Accountability Office (GAO) report noted that “varied state eligibility criteria and challenges identifying and evaluating children may help explain differences in percentages” of children served by special education from state to state.

In 2013, the American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders, 5<sup>th</sup> Edition, revised the diagnostic criteria for Specific Learning Disorders dropping both IQ-Achievement discrepancy and the identification of cognitive processing deficits and instead focusing on academic skills that are “...substantially and quantifiably below those expected for the individual’s chronological age and cause significant interference with academic or occupational performance...”. Although the discussion of associated features of SLD acknowledges the role of cognitive processing deficits, these are not required to be identified (DSM-5-TR, 2022).

In developing these evaluation principles and standards, we have focused on ensuring an evaluation that considers LDA’s definition of SLD. In researching international criteria, it has become apparent that despite variations in the terms used, there is significant agreement across the globe on the diagnostic characteristics of these disorders. Table 2 captures the level of consensus found in components of SLD included in the definition/diagnostic criteria for SLD by numerous professional organizations and governmental agencies around the world.

**Table 2.** Comparison of components included in SLD definitions/diagnostic criteria across different professional organizations and governmental agencies around the world.

Note. Darker shaded blocks indicate a feature listed in diagnostic criteria. Lighter shading indicates criteria noted in diagnostic considerations or narrative accompanying the diagnostic criteria.

	Neuro-Biological Origin	Academic Impairment	Possible Other Functioning Impairment	Psychological/Cognitive Processing Deficits	Lack of Response to Appropriate Intervention	Distinct from Global Cognitive Impairment	Academic Deficits Not Primarily Due To Sensory Impairment	Academic Deficits Not Due to Emotional Difficulties	Unexpected Failure to Achieve Academically	Includes Subtypes
<b>IDEA</b>	X	X		X	X	X	X	X	X	
<b>DSM-5-TR (U.S.)</b>	X	X	X	X	X	X	X	X	X	X
<b>ICD 11 (U.N.)</b>	X	X	X	X	X	X	X	X	X	X
<b>NJCLD</b>	X	X		X			X	X		
<b>ADCET (Australia)</b>	X	X	X	X		X	X		X	
<b>UK Gov Office for Science</b>	X	X	X	X		X	X	X	X	X
<b>LDAC (Canada)</b>	X	X	X	X	X	X	X	X	X	X
<b>LDA</b>	X	X	X	X	X	X	X	X	X	X
<b>NICHD</b>	X	X		X	X	X	X	X		X
<b>NASP (USA)</b>	X	X	X	X	X	X	X	X	X	

## Patterns of Strengths and Weaknesses

As outlined previously, the use of intellectual assessments, specifically the use of IQ, as a component of SLD evaluation has been controversial. Early IQ tests were racially and culturally biased and wrongly interpreted. However, modern cognitive assessments are increasingly based on sophisticated and robust theories of cognitive ability and are psychometrically sound (Carroll, 1993; Das et al., 1994; Horn & Cattell, 1966; McGrew, 2009). There is wide-ranging agreement that SLD are distinct from global cognitive impairment and that they are rooted in cognitive processing deficits that can now be reliably measured (Ahearn, 2003; Johnson et al., 2010; Moll et al., 2016; Fletcher & Grigorenko, 2017; Agostini, et al., 2022). Thus, it is LDA's position that there is a role for cognitive assessment in SLD evaluation and identification. Our current understanding of SLD and their identification has been informed by decades of research from cognitive, educational, and school psychology, psychometrics, special education, and neuroscience. Considering this research, *Patterns of Strengths and Weaknesses* (PSW) models and neuropsychological models of SLD evaluation and identification are most aligned with the current state of the research as both models assess the cognitive skills that are differentially associated with various academic skills.

PSW approaches utilize measures that are commonly used by psychologists and diagnosticians in schools (Shanock, et. al., 2021) thus these models of SLD evaluation and identification are more accessible to children than neuropsychological models. Like neuropsychological models, PSW models involve the use of cognitive assessment data to document a pattern of cognitive strengths and weaknesses that are consistent with the academic underachievement the individual is presenting. PSW approaches seek to establish an "...empirical or ecologically valid relationship between a cognitive processing weakness(es) and a specific academic skill weakness(es) that stands in stark contrast to cognitive strengths, such as average or better ability to think and reason" (Flanagan et al., 2019; Kavale & Spaulding, 2008, p. 170; Shanock, et. al, 2021). Five PSW methods have been researched and discussed in the literature: *Discrepancy/Consistency Method* (DCM; Naglieri & Das, 1997); the *Dual Discrepancy/Consistency Method* (DD/C; Flanagan et al., 2002); the *Concordance-Discordance Method* (C-DM; Hale & Fiorello, 2004); the *Psychological Processing Analyzer* (PPA; Dehn, 2014), and the *Core Selective Evaluation Process* (C-SEP; Schultz & Stephens, 2015).

Another factor that aligns PSW methods with LDA's position on SLD evaluation and identification is that these models endorse that the use of standardized, norm-referenced assessments of cognitive abilities and academic achievement ideally take place after it has been demonstrated that the individual has been provided with targeted, research-informed intervention specific to the academic difficulties that have been demonstrated. Data documenting the student's response to research-informed intervention should optimally be part of every evaluation for SLD. Use of standardized, norm-referenced cognitive tests may not be necessary for every student who experiences learning difficulties. Response to instruction and intervention (RTI) within multi-tiered systems of supports (MTSS) alone may be sufficient for remediation of specific academic skill deficiencies, but not for the identification of SLD. When the student's response has been inadequate, the data collected should be used to inform the selection of cognitive and academic assessments in the SLD evaluation. The patterns of cognitive and academic strengths and weaknesses that are revealed through the evaluation process will then inform the selection of more individually tailored interventions.

## Considerations and Best Practices for the Use of Cognitive Assessments

Cognitive assessment of students typically involves administering one or more standardized, norm-referenced tests and involves recognition of the importance of multiple data sources; that is, a standardized assessment of cognitive processes includes current levels of functioning in multiple cognitive domains such as accumulated knowledge, reasoning, and working memory. Cognitive assessment data are not the sole determinant for establishing an SLD, but rather provide results to be considered with information obtained from multiple data sources to establish a convergence of relevant data. These data sources include both standardized and informal academic assessments, input from teachers and caregivers, input from students themselves, and direct, behavioral observations, cognitive assessment data provide insight into how a student learns and why he or she is struggling academically (e.g., Compton et al., 2012; Sanders et al., 2017). This information assists in formulating recommendations, instructional strategies, and interventions when integrated with other critical data sources (e.g., behavioral observations of student's approach to solving problems and answering questions; information gathered through testing limits, such as whether problems are solved correctly without time constraints; information gathered through interviewing parents, teachers, and the student; educational, social, and medical history).

Psychometric theory (CHC) and neuropsychological constructs (e.g., learning and memory, speed and efficiency) and accompanying research should be at the center of all cognitive assessment activities because they drive test selection, test interpretation, problem-solving, and intervention (e.g., Schneider & McGrew, 2018; Hale et al., 2016). Best practices in cognitive assessment come from the application and use of a systematic, comprehensive evaluation and interpretive framework that integrates empirically supported theoretical and psychometric principles and that is nondiscriminatory (Ortiz, 2014). Issues related to measurement, validity, interpretation, and intervention are accommodated within the framework, precisely because theory is applied and is central to the process (e.g., Carroll, 1993; Haier & Jung, 2018).

Cognitive tests assist in determining whether a student suspected of having an SLD has a disorder in one or more basic psychological processes, which is a component of the IDEIA 2004 definition of SLD and a necessary criterion for the accurate identification of SLD. Once a decision is made to use cognitive tests, the process of assessment is guided by theory through knowledge of the network of validity evidence that exists in support of the structure and nature of abilities and processes within the theory. For example, there is a large body of research on the relationships between cognitive abilities and processes specified by theory and specific academic skills (e.g., Johnson et al., 2010; McDonough et al., 2017; McGrew & Wendling, 2010; Miller & Maricle, 2019). The correspondence between weaknesses in academic skills and related cognitive processes together with strengths in cognitive abilities and processes is a common pattern of performance in students with SLD. Special issues of the *Journal of Psychoeducational Assessment* (2016) and *Specific Learning Disabilities: A Multidisciplinary Journal* (2014) have focused on this correspondence.

The Cattell-Horn-Carroll (CHC) theory of cognitive abilities is an empirically supported theory of the structure of the intellect based on the work of Raymond Cattell, John Horn, and John Carroll. Researchers continue to study and refine this model (e.g., Alfonso et al., 2005; Horn & Blankson, 2005; McGrew, 2005; Schneider & McGrew, 2018) and many assessments of cognitive and intellectual abilities, including the Wechsler Intelligence Scale for Children (WISC-V) and the Woodcock-Johnson assessments have been structured within the framework of this theory. Additionally, hundreds of cognitive

instruments have been classified according to CHC theory (Flanagan et al., 2017) and are supported by research (e.g., Nieleksela & Reynolds, 2019). CHC classifies and organizes cognitive and neuropsychological processes into eight Broad Abilities: Crystallized Knowledge, Fluid Reasoning, Short-Term Working Memory, Learning Efficiency, Visual Processing, Auditory Processing, Retrieval Fluency, and Processing Speed. These Broad Domains are further divided into Narrow Abilities. For example, the Narrow Abilities making up Short-Term Working Memory include Auditory Short-Term Storage, Visual-Spatial Short-term Storage, Attentional Control, and Working Memory Capacity. More information on CHC Broad Domains and Narrow Abilities can be found in Appendix 1. Table 3 summarizes the research on cognitive-academic skill correlations.

**Table 3.** *Summary of research on cognitive abilities and academic skill correlations*



	Word Reading	Reading Fluency	Reading Comprehension	Written Expression	Spelling	Math Calculation	Math Reasoning	Oral Expression	Listening Comprehension
Attention	X	X	X	X	X	X	X	X	X
Executive Function			X	X			X		
Fluid Reasoning			X				X		
Short-Term Working Memory	X		X	X	X	X			
Learning Efficiency	X								X
Retrieval Fluency	X	X			X	X		X	
Auditory Processing	X				X			X	
Visual-Spatial Processing							X		
Comprehension Knowledge			X	X			X	X	X
Processing Speed		X		X		X			X

It is LDA's position that a comprehensive SLD evaluation and intervention process greatly benefits when cognitive process data are considered in conjunction with academic performance data through a Patterns of Strengths and Weaknesses approach, including for students who are not identified. Much the same way that application of theory guides how test results are interpreted, so too will it influence the way results are translated into recommendations for interventions. Because the application of theory provides a defensible basis for measurement and interpretation, stronger statements regarding probable causal links and avenues for appropriate remediation and logical intervention can be made (e.g., Decker & Luedke, 2021; Decker et al., 2018; Mascolo et al., 2014; Mather & Jaffe, 2016).

It is important to remember that knowledge regarding the probable causes of poor academic performance is half the battle in guiding and informing the development of appropriate recommendations regarding curricular modifications and supports, remedial techniques, accommodations, and compensatory strategies. Without an understanding of probable causes, it is difficult to select and tailor interventions that will address the student's unique learning needs. For example, remedial instruction for a student with reading difficulties associated with semantic language processing will likely differ from interventions developed for a student with reading difficulties that are associated with phonological processing and working memory deficits.

## A Model for the SLD Evaluation

### Principles of The SLD Evaluation Standards

The SLD Evaluation is guided by seven foundational principles; the SLD Evaluation is 1) *interdisciplinary*, 2) *research-informed*, 3) *consequently valid*, 4) *dynamic and iterative*, 5) *whole-child focused*, 6) *strengths-based*, and 7) *universally benevolent*. We believe these principles serve as a foundation for establishing a common ethos among stakeholders with respect to the SLD evaluation and its connection to practice. The SLD Standards that follow derive from these principles.

#### **Principle 1: *Interdisciplinary***

This principle emphasizes the importance of evaluations that are informed by collaboration among multiple disciplines that have relevance to SLD including but not limited to: school psychology, speech and language pathology, special education, literacy education, mathematics education, cognitive psychology, neuropsychology, developmental psychology, medicine, and mental health. An interdisciplinary stance toward the SLD evaluation provides stakeholders the best opportunity to capture the information necessary to accurately identify SLD, to comprehensively understand an individual's strengths and needs, and to provide practitioners with relevant recommendations related to teaching and treatment. This principle does not suggest that separate evaluations should be completed by experts from all relevant disciplines, but it does imply that the evaluation process is collaborative and informed by the quantitative and qualitative approaches of various relevant professionals.

#### **Principle 2: *Research-Informed***

Closely aligned with Principle 1, Principle 2 emphasizes the importance of the SLD evaluation being informed by the most current research from multiple disciplines which are relevant to SLD. This research informs what should be included in SLD evaluations (i.e., what should be assessed), how the evaluations are implemented (i.e., the practices used by evaluators), how information is analyzed and interpreted, and how the results of SLD evaluations are translated to practice (i.e., teaching and treatment). The research considered should be valid and reliable/credible, dependable, and trustworthy, and should include research that incorporates quantitative methods, qualitative methods, and mixed methods.

#### **Principle 3: *Consequentially Valid***

The overarching result of SLD evaluations should be positive outcomes for individuals who are evaluated, regardless of whether an SLD identification is made. The term *consequential validity* refers to the

consequential outcomes of an assessment and whether those outcomes are aligned with the purpose of the assessment. When the consequential validity of an SLD evaluation is considered, stakeholders are motivated to reflect upon the evaluation-to-intervention process itself, and the extent to which the evaluation process is resulting in greater clarity regarding a child's learning challenges and how those challenges can be supported. Consequential validity closely couples the SLD evaluation to what is done based on the results of the evaluation, thereby ensuring that the evaluation and the resulting teaching/treatment are not viewed as separate practices.

**Principle 4: *Dynamic and Iterative***

Like the vision of RTI and building upon Principle 3, Principle 4 emphasizes that it is critical that the SLD Evaluation is dynamic rather than static in nature. In other words, the evaluation-to-teaching/treatment process should be envisioned as fluid and ongoing. When the evaluation-to-teaching/treatment process is fluid and ongoing, the evaluation and teaching/treatment phases inform one another in an iterative and cyclical fashion (Figure 1). This principle also relies upon the interdisciplinary collaboration of stakeholders across the evaluation-to-teaching/treatment continuum.

**Principle 5: *Whole-Child Focused***

Principle 5 recognizes that the whole of each child should be considered across the evaluation-to-teaching/treatment process. Therefore, it is critical that the SLD Evaluation incorporates assessments that result in a whole person view. This includes but is not limited to a cognitive/learning perspective, a content knowledge and skill perspective, a cultural and linguistic perspective, a physical and mental health perspective, a strengths perspective, and a social and family perspective. When pertinent information is obtained that represents the whole child/person in a comprehensive way those using the results and recommendations of the evaluation to plan and implement instruction and intervention, have a rich context to personalize teaching/treatment more effectively.

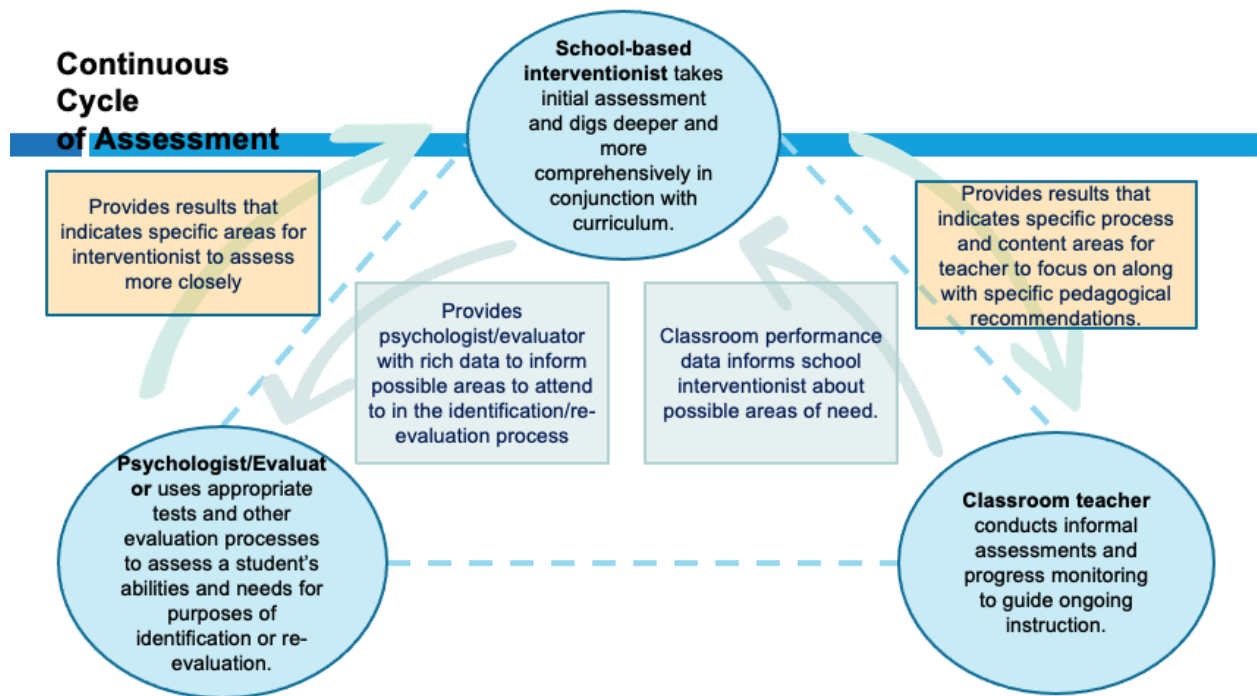
**Principle 6: *Strengths-Based***

Although it is critical that the SLD Evaluation reveals difficulties that a person is experiencing, it is also critical that equal attention is applied to a person's academic and personal strengths. The field of positive psychology has increasingly identified how identifying and cultivating an individual's strengths can result in positive educational and life outcomes. Therefore, this principle emphasizes the importance of leveraging this research and knowledge base to promote individual strengths and to leverage them to support growth and success academically, socially, and emotionally.

**Principle 7: *Universally Benevolent***

Universal benevolence affirms a strong and equal concern for all people. In the context of the SLD Evaluation and the evaluation-to-teaching/treatment continuum, stakeholders embrace and put into action the notion of universal benevolence, avowing that all individuals are treated and viewed with strong and equal concern regardless of circumstance, culture, physical or mental limitation, linguistic difference, learning, social, emotional, and behavioral difficulties, etc. It also implies that the evaluation process be used to benefit students regardless of identification decisions.

**Figure 1.** Continuous Cycle of Assessment



### Standards for the SLD Evaluation

<b>Standard 1: The SLD Evaluation embraces an interdisciplinary lens for evaluation and intervention process.</b>	
1.1	The SLD evaluation and intervention teams always include the student's teachers, intervention providers, psychologists and diagnosticians.
1.2	The SLD evaluation and intervention teams will include related service providers including school health providers, speech and language pathologists, occupational therapists, physical therapists, school counselors and mental health providers, when data collected, formally and informally, indicates a possible need.
1.3	The individual being evaluated, and their family are valued and respected team members whose input is sought and thoughtfully integrated with other data.
1.4	The evaluation process includes a mechanism for communication and collaboration among team members to share insights and recommendations, which will result in improved educational outcomes.
<b>Standard 2: The SLD Evaluation is part of a dynamic and connected continuum of evaluation and instruction that is bidirectional and iterative in nature.</b>	

2.1	Informal assessment data, including error pattern analysis and progress monitoring data collected by classroom teachers should be the starting point of the evaluation process to guide ongoing instruction.
2.2	School-based interventionists use the data collected by the student’s teacher to develop targeted interventions.
2.3	Data documenting the student’s response to targeted intervention is used to determine the need for further evaluation.
2.4	Progress monitoring data informs the selection of assessment tools and strategies by psychologists, diagnosticians, SLPs and other evaluators.
2.5	Data from the comprehensive evaluation, including performance captured through standardized scores and qualitative data about student performance, gathered through practices such as testing the limits, error analysis, and behavioral observations during testing is collected and reported in a manner that serves to refine and enhance diagnosis and intervention.
<b>Standard 3: The SLD Evaluation is informed by content-specific (Literacy-Numeracy) research and research-supported practice.</b>	
3.1	Evaluations look at all relevant content domains. 3.1a For Literacy, these domains include concepts of print; oral language; phonemic awareness; phonics; orthography; automatic word recognition; fluency; vocabulary; text comprehension; and written expression. 3.1b For Mathematics, these domains include number and operations; algebraic thinking and reasoning; geometry; measurement; data, statistics, and probability
3.2	High-quality evaluations are consistent with understanding of the theoretical concepts associated with the research of that content area. 3.2a Science of Literacy/Reading concepts including: Scarborough’s Rope; the Simple View of Reading; National Reading Panel’s recommendations; Ehri’s stages of word reading development; Sedita’s Writing Rope; and the Four-Part Processing Model. 3.2b Mathematics concepts include: Procedural fluency being developed from conceptual understanding; three aspects of mathematics fluency (Accuracy, Efficiency, Strategy/Flexibility), central role of Mathematical Practices and Processes
3.3	Recommended interventions in Literacy and Mathematics target the area of struggle and acknowledge the interconnected nature of all domains and content areas.
<b>Standard 4: The SLD Evaluation, in all phases, is informed by the cultural and linguistic background of the child and the context of instruction at school.</b>	

4.1	Evaluators gather detailed information about the home language and literacy from the family and caregivers.
4.2	The child's proficiency in their home language(s) and the language of instruction is determined and considered in the evaluation process.
4.3	Whenever possible and appropriate to the linguistic and instructional context, assessments are administered in both the language of strongest proficiency as well as the language of instruction.
4.4	<p>When assessments, whether cognitive or content-specific, are administered in a language other than the individual's native or home language, results must be analyzed in consideration of the cultural and linguistic loading of assessment tasks.</p> <p>4.4a In regards to literacy, this may include understanding how print and book concepts vary across languages and cultures, how oral and written language and vocabulary acquisition occurs, articulation and dialectal differences in phonological and phonemic awareness, and how languages have different grammatical structures.</p> <p>4.4b In regards to mathematics, this may include understanding language nuances (e.g. syntax, grammar, morphology, and academic vocabulary) of mathematics, the differences in algorithms across countries and regions of the world, the extent to which word problems are set in contexts that are authentic, relevant, and familiar to the child, and, in the case of timed tests, the extent to which translation extends the time a culturally and linguistically diverse child needs to complete the assessments.</p>
4.5	All SLD evaluations of individuals who are culturally and linguistically diverse must be informed by the necessary information (such as a review of invariance testing results that examine group differences in performance for a particular instrument) to determine that the academic difficulties experienced are not solely the result of cultural and language differences.
<b>Standard 5: The SLD Evaluation embraces the strengths of individuals as well as areas of difficulty.</b>	
5.1	The comprehensive SLD evaluation is holistic and focuses on the multiple domains that affect learning and performance in school: cognitive & language abilities, academic skills, attention and executive functioning, social and emotional functioning, health status, motor skills, and strengths.
5.2	The holistic evaluation includes formal and informal assessment and data from multiple sources and informants.
5.3	The holistic evaluation considers the health status of the individual and determines that the academic difficulties experienced are not the result of vision and/or hearing difficulties or other health-related or neurodevelopmental disorders.
5.4	Student strengths are evaluated formally and informally and with an emphasis on character strengths and motivation in addition to academic and cognitive strengths.

<b>Standard 6: The SLD Evaluation is supported through comprehensive professional development for stakeholders that recognizes their unique contributions within an interdisciplinary collaboration.</b>	
6.1	Professionals involved in the evaluation of individuals with SLD stay current in their respective fields and participate in ongoing professional development.
6.2	Professionals involved in the evaluation of individuals with SLD keep current with research and best practice in evaluation and intervention for SLD.
<b>Standard 7: The SLD Evaluation process provides comprehensive information that supports the development of effective instruction/intervention and accommodations for individuals, regardless of whether they meet identification criteria for SLD.</b>	
7.1	The goal of the SLD evaluation is to create a holistic understanding of the individual as a learner.
7.2	When administering and interpreting assessments, performance captured through standardized and non-standardized data, gathered through practices such as error pattern analysis, behavioral observations during testing, and when relevant, testing of the limits and other testing accommodations must be considered.
7.3	In addition to diagnosis and eligibility determination, the evaluation provides specific recommendations for instruction and intervention.
7.4	Instructional and intervention recommendations are specific to the cognitive, academic, social-emotional, attentional and executive function strengths and needs of the individual.
<b>Standard 8: The SLD evaluation team considers the consequential validity of the evaluation- which is the extent to which the process leads to improved outcomes for students with SLD.</b>	
8.1	The evaluation provides a clear path to improved educational outcomes for the individual in multiple domains.
8.2	The evaluation details actionable steps to improve academic and social-emotional functioning.

**The SLD Evaluation Model: Listen Evaluate Formulate Treat/Teach (LEFT)**

With these principles and standards in mind, we now address the structure of comprehensive evaluations. LEFT is an acronym created by Eric Tridas and Gad Elbeheri, LDA Professional Advisory Board members, to encapsulate the necessary components of a truly comprehensive evaluation of SLD and the components of the accompanying evaluation report. Evaluators must first **Listen** and gather the critical information about the child’s developmental, health, social-emotional and education history that will form the context for the interpretation of data collected through the evaluation process. Next, we **Evaluate** the child’s cognitive abilities, academic skills, attention and executive functioning, social-emotional functioning, and unique strengths. Once data is collected, evaluators **Formulate** impressions related to the assessed domains and form diagnoses. Finally, and most importantly, the

evaluator focuses on **Teach/Treat**, using all the information collected to develop the educational, psychological, medical, and environmental interventions and accommodations necessary to support the child. In the following sections, we describe each component of this comprehensive evaluation structure. Figure 2 illustrates the phases of LEFT.

**Figure 2.** Phases of the LEFT Model

## The LEFT Model



### Phase # 1: LISTEN - History

During this phase of the evaluation, the evaluator interviews the family, relevant teachers/educators, the student, and other stakeholders to gain qualitative insights into the student's current and previous life experiences across multiple areas. This phase is critical to the comprehensive evaluation as it provides the evaluator and interdisciplinary team members with an in-depth understanding of the student's context that informs the data/information collected during the subsequent **Evaluate - Testing** phase.

This history should include a simple list of the observable strengths and weaknesses of the student in four major domain areas of impairment: a) Academic, b) Behavioral/Emotional, c) Social Relationships, and d) Health.

1. Main Concern: Reason for referral
2. Educational History: This section should provide a summary of the student's performance (strengths and weaknesses) from the time they first began attending any type of educational setting to the present. This would help establish onset (in order to satisfy duration criteria requirements for diagnosis) and type of symptoms (academic, behavioral, emotional, social relationships, and health) in order to consider coexisting conditions that may impact academic performance.
3. Behavior/Emotional History: As noted above, this information can be gathered during the educational history process to understand when the symptoms first occurred and possibly identify precursors of possible behavior and emotional disorders. This would also help ascertain if the current behavior and emotional symptoms are the result of the student's learning challenges or a coexisting factor in their clinical presentation.
4. Peer Interactions/Social Skills: This type of history provides invaluable information regarding the student's ability to meet the challenges of social interaction. It can provide further insight on the



impact of neurodevelopmental, behavioral/emotional, and health factors on a person’s ability to succeed in their social milieu.

5. **Health and Sleep:** Health and sleep challenges can create major hurdles in learning. This information can also help address exclusionary criteria in the diagnosis of SLD. These may include sensory deficits (hearing and vision), and chronic health problems that result in frequent absences or decreased stamina. Sleep disorders can impact alertness, attention, cognitive efficiency, and many other factors (Hvolby, 2014).
6. **Family and Social History:** SLD and many of the comorbid neurodevelopmental and behavioral disorders are highly heritable. A family history can help identify students at risk for these types of challenges. Collect information on parent / caregiver level of education and occupation. A description of the family constellation and social environment can provide invaluable information about the types of strengths and challenges that a home environment can bring. This is also a critical source of information when considering cultural and linguistic factors that can have a dramatic impact on a person’s learning.

**Table 4.** *Components of the LISTEN - History phase of LEFT*

<b>LISTEN– History</b>	1. Main Concern(s) – Reason for referral
	2. Educational History (including language of instruction)
	3. Behavior/Emotional History
	4. Peer Interactions/Social skills
	5. Sleep
	6. Health
	7. Family History <ul style="list-style-type: none"> <li>a. Listen and learn about family culture and language(s)</li> <li>b. Inquire about history of learning and attention disorders</li> <li>c. Inquire about the school experiences of family members, including extended family members</li> </ul>
	8. Social History

**Phase # 2: EVALUATE - Testing**

During this phase of the evaluation, an interdisciplinary team of evaluators assess six primary areas related to educational and life success including, 1) cognitive and language abilities, 2) academic skills, 3) attention and executive functioning, 5) strengths, and 6) health. It is important to recognize that environmental factors contribute across these six domains of assessment and these factors must be assessed and considered when planning intervention. The goal of the **Evaluate** phase is to gain a quantitative and qualitative understanding of an individual’s functioning, pinpointing both strengths and weaknesses across these contributing factors. In all the areas evaluated, evaluators will rely on a combination of informal, curriculum-based, and norm-referenced assessments and direct observation of

the student. SLD and their identification are complicated. While many evaluation teams are looking for quick methods of identification that are reliable and valid, the reality is that these do not exist. There may be stringent formulas and criteria in some settings, but comprehensive evaluations to rule SLD in or out are multi-faceted and require clinical and diagnostic skills. It is LDA's position that all students referred for evaluation because of learning difficulties deserve a process that determines not simply whether they are eligible for services but one that provides a comprehensive understanding of an individual's functioning, pinpointing both strengths and weaknesses and creating a better understanding of the strengths they have and the supports they need.

### **Cognitive Abilities**

Earlier in this document, we described the importance of evaluating cognitive skills and abilities. Again, the focus is not on obtaining an overall IQ score or global cognitive ability index. Rather, the emphasis must be on assessing the Broad and Narrow cognitive abilities known to be strongly correlated, with academic skills, especially in the areas where the student is struggling to achieve (McGrew, 2023). Depending on the cognitive batteries used, that may mean that the evaluator will need to administer "supplemental" subtests from some batteries or, at times, administer additional assessments targeting specific cognitive processes. More information on specific assessments and on the Cattell-Horn-Carroll alignment of major cognitive assessment batteries can be found in Appendix 1

Language processing and acquired knowledge are understood in CHC theory as *Gc*; a Comprehension-Knowledge domain, sometimes also referred to as crystallized abilities. Language abilities, both comprehension of language and the ability to use both oral and written language are central to schooling thus they are always evaluated. For learners who are still in the process of mastering the language of instruction, assessment and evaluation of these abilities become even more critical. Whenever possible, the evaluator must assess the individual's skills in their primary language(s) as well as the language of instruction to begin parsing out whether difficulties acquiring academic skills are due to language acquisition or the presence of a learning disability. There are special considerations for interpreting the data collected that are discussed in the Formulate section.

### **Academic Skills**

Evaluation of academic skills must be based on the most current understanding of content-specific research. It should be noted that certain evaluation areas can benefit from further enhancement/improvement. The reality is that certain testing areas are more robust in terms of capturing the breadth and depth of information representative of that area (e.g., cognitive abilities and reading knowledge/skills) compared to other testing areas (e.g., mathematics, written expression, social-emotional functioning, and personal strengths). Working toward enhancing these evaluation areas is one of LDA's immediate goals. For example, we are in the midst of examining the mathematics content that has traditionally been the focus of commonly used standardized academic batteries to propose a more robust and comprehensive mathematics evaluation that is reflective of the knowledge and skills necessary for students to achieve K-12 mathematics competence. Specifically, the literature in mathematics education supports the importance of assessing conceptual understanding, procedural fluency (a multi-dimensional concept), and student engagement in the mathematical practices and processes. Appendix 3 illustrates what is currently assessed related to mathematics proficiency (i.e., arithmetic) and our recommendations for aligning future assessments to more fully capture the dimensions of mathematics competency.

As evaluators consider what they include in the testing phase of a comprehensive evaluation, it is important to embrace the use of information/data from teachers and interventionists to inform testing decisions based on principles 1 & 2 described above. This might include formal and informal progress monitoring data, error pattern analysis data, cognitive interview data, running record reading data, etc. Indeed, the in-depth nature of more informal teacher/interventionist assessments can provide evaluators important insights into use of tests or a focus on certain knowledge/skill areas they might not have considered otherwise.

### **Attention and Executive Functions**

Executive function impairment often accompanies learning disabilities. While this is no doubt related to the high comorbidity between SLD and ADHD (Sahu, et al, 2019), many students with SLD exhibit impairment in working memory abilities and attentional control. Schneider and McGrew (2018) posit that "...the ability to manipulate the spotlight of attention flexibly to focus on task-relevant stimuli and ignore task-irrelevant stimuli . . ." is an ability central to intelligence and learning. Thus, all comprehensive evaluations for SLD must address both attention and executive skills. Students with comorbid ADHD will certainly need accommodations to address attention and the EF deficits that often accompany ADHD. It is important to note that it is possible that EF deficits exist absent of an ADHD diagnosis. Addressing academic deficits without also addressing comorbid executive functioning deficits could leave the student with increased academic knowledge and skills but a limited ability to access and apply that knowledge independently.

### **Social-Emotional Functioning**

SLD and the accompanying academic difficulties can be stigmatizing for students. Children judge their self-worth based on their performance in school as compared to their peers. The unfortunate reality is that many experience years of academic failure and frustration before the evaluation and identification of their SLD occur. This often results in not just a loss of self-worth but also more serious mental health concerns including anxiety and depression. Difficulties with social interaction and peer relations may also develop.

In addition to the stress caused by academic failure, there is emerging research that suggests that individuals with SLD are at generally greater risk for developing anxiety. A recent study by Anderson and colleagues (2022), found that processing speed and executive function deficits, both very common in individuals with SLD, increased the risk of anxiety symptoms in youth and that these symptoms were more pronounced when reading deficits were also present.

### **Vision, Hearing and Physical Health**

Among the exclusionary factors that must be considered when diagnosing SLD is the possibility that academic difficulties are the result of vision or hearing difficulties. Thus, vision and hearing screening data must always be collected as part of a comprehensive, holistic evaluation. General physical health must also be determined because learning difficulties can most certainly arise from health-related conditions. Lead exposure, diabetes, malnutrition, and other conditions often take a toll on an individual's learning and performance as well as overall well-being. Establishing that an individual is in good health is a critical early step in the evaluation process.

## Strengths

Assessment of cognitive and academic skills as part of a comprehensive SLD evaluation always involves identifying strengths in both domains. Academic strengths may be most important to the individual's sense of self-worth, and these can often be difficult to identify. There is a high degree of comorbidity between reading, writing, and math disabilities (Willcutt et al., 2019) thus it is not unusual for individuals to see only their struggles. For this reason, it is critical that effort be made to explicitly assess and identify strengths in other domains including social skills, motivation, and other character strengths. This can be done informally through interviews with multiple informants and observation. There are also formal assessment tools available such as the Devereux Students Strengths Assessment (DESSA) and the Values in Action Character Strengths Survey (VIA) (Peterson & Seligman, 2004).

**Table 5.** Components of the EVALUATE – Testing phase of LEFT

<p><b>EVALUATE-- Testing</b></p>	<ol style="list-style-type: none"> <li>1. Cognitive Processes             <ol style="list-style-type: none"> <li>a. Crystallized Knowledge &amp; Language Processing</li> <li>b. Phonological Processing</li> <li>c. Rapid Automatic Naming</li> <li>d. Working memory</li> <li>e. Retrieval fluency</li> <li>f. Fluid reasoning</li> <li>g. Visual-spatial skills</li> <li>h. Processing Speed</li> </ol> </li> </ol>
	<ol style="list-style-type: none"> <li>2. Academic Skills             <ol style="list-style-type: none"> <li>a. a. Reading &amp; Reading Awareness                 <ol style="list-style-type: none"> <li>i. Print awareness</li> <li>ii. Phonological &amp; Phonemic Skills</li> <li>iii. Decoding</li> <li>iv. Word Reading</li> <li>v. Reading Comprehension</li> <li>vi. Listening Comprehension</li> <li>vii. Reading Fluency</li> </ol> </li> <li>b. Mathematics                 <ol style="list-style-type: none"> <li>i. Conceptual Understanding &amp; Procedural Fluency                     <ol style="list-style-type: none"> <li>1. Numbers and Operations</li> <li>2. Algebraic Reasoning</li> <li>3. Measurement</li> <li>4. Geometry</li> <li>5. Data, Statistics &amp; Probability</li> </ol> </li> <li>ii. Mathematical Processes                     <ol style="list-style-type: none"> <li>1. Problem Solving</li> <li>2. Reasoning &amp; Proof</li> <li>3. Communication</li> </ol> </li> </ol> </li> </ol> </li> </ol>

	<ul style="list-style-type: none"> <li>4. Connections</li> <li>5. Representation</li> </ul> <p>c. Writing</p> <ul style="list-style-type: none"> <li>i. Transcription <ul style="list-style-type: none"> <li>1. Handwriting, Letter Formation</li> </ul> </li> <li>ii. Word Level <ul style="list-style-type: none"> <li>1. Spelling</li> <li>2. Word Choice</li> </ul> </li> <li>iii. Sentence Level <ul style="list-style-type: none"> <li>1. Sentence Structure and Elaboration</li> <li>2. Syntactic Awareness</li> <li>3. Grammar &amp; Punctuation</li> </ul> </li> <li>iv. Discourse Level <ul style="list-style-type: none"> <li>1. Paragraph Structures</li> <li>2. Patterns of Organization</li> <li>3. Linking and Transition Words / Phrases</li> </ul> </li> <li>v. Oral Language <ul style="list-style-type: none"> <li>1. Listening Comprehension</li> <li>2. Oral Expression</li> </ul> </li> </ul>
	3. Attention and Executive Functioning
	4. Social-emotional Functioning
	5. Vision, Hearing and Physical Health
	6. Strengths

**FORMULATE – Impressions**

During this phase of the evaluation, the evaluator coalesces the information and data gathered in the LISTEN - History and EVALUATE - Testing phases of the comprehensive evaluation to formulate a plan of intervention. There are seven areas we suggest considering when evaluators and interdisciplinary team members make interpretations based upon the information/data gathered. Table 7 shows these seven areas. Of course, an evaluator will determine whether a student meets agreed-upon criteria for a diagnosis or diagnoses. This is critical for eligibility purposes and to receive special education services as provided for in the IDEA at the K-12 level or to receive reasonable accommodations as provided by the ADA and Section 504 of the Vocational Rehabilitation Act. However, even without a diagnosis, the comprehensive evaluation still plays a vital role in informing how individuals with or without a diagnosis can be supported to achieve greater levels of educational and life success. This is a core value that LDA embraces because struggling learners deserve instruction and intervention that addresses their needs regardless of having a diagnosis or not. Therefore, the FORMULATE - Impressions phase of the comprehensive evaluation should not be predicated solely on a diagnosis. This phase should emphasize evaluators and interdisciplinary team members focused on gaining insights into how an individual is functioning from a whole-person perspective, visualizing patterns of strengths as well as patterns of weaknesses and how these patterns connect to explain why a student might be struggling, where there might be gaps, and how a student’s areas of strength might support addressing these gaps. LDA firmly

believes that information/data gathered in each area, including cognitive processing, achievement, culture and linguistics, social/emotional/behavioral, health, and environment, are all critical to understand how these areas interact to provide guidance into what can be done to support the student.

This section of the evaluation report should provide a clear description of how the cognitive/processing factors impact the acquisition of academic skills and impact overall academic performance. It is the opportunity to explain *WHY* the student is experiencing the challenges that lead to this evaluation. This is also an opportunity to provide invaluable information to the parents, students, and teachers to facilitate advocacy and have a better understanding of what is needed to help the student attain success. There is support in the literature for considering a multifactorial causal model that can best explain the contributing factors that are impacting the students' challenges (Catts & Petscher, 2022). There are five guiding questions that can help evaluators in the formulation phase:

1. **Is there a problem?** This should help everyone to acknowledge that there is indeed a problem, even when the student is not eligible for special education services. It proves that this is not simple developmental variation or some other misperception.
2. **What is it called?** This is the list of diagnoses. This allows the description of how the student evaluation provided the evidence for the necessary diagnostic criteria. For example, a specific learning disorder with impairment in reading accuracy and rate clearly labels the symptoms that are resulting in the impairing condition. Other diagnoses may include attention and executive functions difficulties, behavioral and emotional disorders, health factors, and environmental variables that can have a very significant impact on the student's learning.
3. **What is the cause?** This is where the examiner provides an answer to the *WHY*. This should offer a description of how the history is explained and quantified based on the test findings that explain the reason for the learning challenges. Listing other coexisting conditions can also offer a comprehensive understanding of how the other challenges are impacting the child. For example, the examiner may identify how attention and anxiety may impact the learning process by affecting working memory and processing speed, how a particular medical treatment may be impacting the student's state of alertness, or perhaps how a family crisis is aggravating the already challenging student's learning problems.
4. **What can we do about it?** This is where specific interventions can be described to address the specific needs of the student. Part of the intervention may require specific classroom accommodations or recommend to the family that they consider other intervention services that can supplement those that the school offers. These may include consulting with other professionals that can pursue diagnostic evaluations or interventions regarding some of the comorbidities identified in the evaluation.
5. **What can we expect in the future?** This is a question that should be addressed by the evaluating team to provide the students and their families with some potentially realistic immediate, and if possible, long-term outcomes. Identifying resiliency factors is important. They can mitigate the impact of deficits and risk factors identified during the evaluation and increase the likelihood of success (Catts & Petscher, 2022).

A discussion of potential identification for specific learning disabilities cannot be complete without a continuous consideration of the impact of potential exclusionary factors. Exclusionary factors are conditions that may explain the difficulties and weaknesses a student is demonstrating that are not due to a disorder in one or more of the basic psychological processes.

Examples of exclusionary factors include inappropriate instruction, motivation, psychiatric conditions, medical conditions including vision and hearing, limited English proficiency, poor attendance, frequent moves, etc. While the factors may manifest in a measured performance like a student with a disability, the conditions in and of themselves are not the basis for eligibility when they are the primary reason for the weaknesses noted. However, the factors can be found concurrent with SLD when they are not the primary contributor to deficits found (i.e., a student with an intellectual disability that is non-English speaking still has an intellectual disability).

With the diversity of the United States, conditions related to the cultural-linguistic impact on a student’s performance is one of the exclusionary factors that has received considerable attention over the last 50 years. Without an understanding of their impact, the influences can easily mimic a disability when differences are what is being noted in assessment results.

Studies have demonstrated that based on the level of cultural difference, certain subtests within an assessment battery may be artificially depressed. The research demonstrates that the further a student is from the “core culture” (the normative sample), the greater the impact will be on scores, especially for subtests that are highly loaded with cultural-linguistic items such as vocabulary.

Many evaluators assessing diverse students are at a loss to establish the validity of their results, unsure whether they are documenting a potential disability or are seeing an indication of an expected depression in scores. There are at least two research-based tools that help in the determination of the difference versus disability quandary. Information about the Cultural-Linguistic Interpretive Matrix (C-LIM; Flanagan, et al., 2013) and the Diverse Student Normal Ability Performance (D-SNAP, Pristo & Ortiz) are included in Appendix 3

**Table 6.** *Components of the FORMULATE - Impressions phase of LEFT*

<b>Formulate– Impressions</b>	1. Diagnosis(es)
	2. Cognitive Processing - interpreted in light of language and cultural factors
	3. Achievement - interpreted in light of language and cultural factors
	4. Behavioral/Emotional
	5. Social Interaction
	6. Health
	7. Social/Environmental
	8. Social History

A major challenge in the evaluation process is how to identify second language learners with a learning disability. Historically issues have included overidentification and underidentification (Cummins, 1984; Limbos & Geva, 2010). The overidentification has been related to assessments with cultural and linguistic bias and a lack of a process which ensures a thorough review of the contextual factors such as language

proficiency, years of schooling, language of instruction and socioeconomic level. The underidentification is related to the attribution of learning disabilities to second language proficiency, cultural differences, and the notion that the individual needs more time to develop their language and academic skills. Underidentification leads to a delay in the identification of a learning disability.

These challenges can be addressed by the assurance that evaluators have a strong understanding of the typical and atypical development of first and second language and literacy acquisition and how this is related to academic skills. Language proficiency and literacy are essential for academic proficiency. Understanding the language and cognitive processes as well as the environmental factors that contribute to language, literacy, and academic proficiency of second language learners who are struggling in school is necessary (Geva & Weiner, 2014).

Major theories of second language acquisition include those by Krashen and Terrell (1983) and Cummins (1981). Krashen and Terrell's (1983) second language stages include the following: 1) Pre-production, 2) Early Production, 3) Speech Emergence, 3) Intermediate Fluency, and 4) Advanced Fluency. Cummins' theory of underlying language proficiency includes distinct features such as basic interpersonal communication skills (BICS) and cognitive academic language proficiency (CALP). BICS includes everyday language. CALP refers to the academic language students will need to meet the demands of an academic setting. Therefore, language proficiency is on a continuum of development and evaluators must be knowledgeable of the language proficiency capabilities of second language learners. It is necessary to understand language capabilities in the native and second language.

*Cross-Language Transfer* is the extent to which one's first language (L1) affects one's second language (L2). Assessors must be knowledgeable in the typical overgeneralizations from L1 to L2. This especially occurs in languages which are similar in structure such as Spanish and English. Understanding cross-language transfer can be helpful and lead to an error analysis process. Error analyses can provide a deeper understanding of a second language learner's academic skills.

### **TEACH/TREAT - Plan of Intervention**

During this fourth and final phase of the comprehensive evaluation, the evaluator and interdisciplinary team members use the impressions formulated in the previous phase to develop recommendations and to develop a plan of intervention. These standards suggest the following areas for inclusion in this phase of the comprehensive evaluation including 1. academic considerations, 2. psychological considerations, 3. medical considerations, and 4. environmental considerations (i.e., school and home). It is not reasonable that the evaluator should be expected to develop a comprehensive plan of intervention. LDA suggests that the evaluator provides recommendations to the interdisciplinary team regarding how impressions from the evaluation inform academic, psychological, medical, and environmental considerations for intervention. With these recommendations, the interdisciplinary team develops a plan of intervention that addresses relevant factors in these four areas as appropriate. Table 7 shows specific areas evaluators and interdisciplinary teams should include in the TEACH/TREAT phase of the evaluation. A component of the Teach/Treat phase is the proactive planning for data-collection and future iterative cycles of communication among the interdisciplinary team such that the Teach/Treat plan can be refined and revised in ways that are consistent with the student's responses to the initial plan.

**Table 7.** *Components of the TEACH/TREAT - Plan of Intervention phase of LEFT*



<b>TEACH/TREAT- Plan of Intervention</b>	<ol style="list-style-type: none"> <li>1. Academic           <ol style="list-style-type: none"> <li>a. Remediation</li> <li>b. Accommodations</li> <li>c. Modifications</li> </ol> </li> </ol>
	<ol style="list-style-type: none"> <li>2. Psychological           <ol style="list-style-type: none"> <li>a. Behavior</li> <li>b. Modification</li> <li>c. Cognitive Behavior Therapy</li> </ol> </li> </ol>
	<ol style="list-style-type: none"> <li>3. Medical Intervention           <ol style="list-style-type: none"> <li>a. Medications</li> </ol> </li> </ol>
	<ol style="list-style-type: none"> <li>3. Environmental           <ol style="list-style-type: none"> <li>a. School               <ol style="list-style-type: none"> <li>i. Physical facility accommodations                   <ol style="list-style-type: none"> <li>1. Schedule</li> <li>2. Educational setting</li> </ol> </li> <li>ii. General education classroom</li> <li>iii. Tier II or III</li> <li>iv. Alternative School                   <ol style="list-style-type: none"> <li>1. Coordination with parents</li> </ol> </li> </ol> </li> <li>b. Home               <ol style="list-style-type: none"> <li>i. Organization/structure</li> <li>ii. Schedule</li> <li>iii. Coordination with school</li> </ol> </li> </ol> </li> </ol>

### **Next Steps**

Because we envision this to be a “living” document and an evolving set of standards, we anticipate additional enhancements will be made iteratively as knowledge/research/contexts about SLD evolve. LDA’s Professional Advisory Board will review and revise these standards as new and relevant information becomes available.

#### **Develop and Offer Professional Development on the SLD Standards.**

LDA’s Learning Disabilities Institute will work to develop professional learning for evaluators, educators, and other professionals that is aligned with and supports the principles of assessment outlined above.

#### **Enhance and Expand the SLD Standards Based**

There are several aspects of the standards that we believe warrant enhancement because of advancements in research and practice. These include:

1. Expand upon what is included in the evaluation components related to assessing mathematics, written expression, social-emotional functioning, and strengths to better represent the science behind these areas.
2. Enhance how the cultural and linguistic diversity of individuals is considered and addressed from a critical consciousness and culturally responsive/sustaining lens.
3. Create a framework for how the SLD Evaluation is connected to a continuum of assessment and instruction/intervention. This includes research-informed articulation of how the combination of academic and cognitive profiles/issues that surface in testing manifest themselves in the student's classroom performance and the teaching actions that are known to best support those classroom performance challenges.

### **Appendix 1. CHC & Major Battery Correlations**

The Cattell-Horn-Carroll (CHC) theory of cognitive abilities is an empirically supported theory of the structure of the intellect based on the work of Raymond Cattell, John Horn, and John Carroll. Researchers continue to study and refine this model (e.g., Alfonso et al., 2005; Horn & Blankson, 2005; McGrew, 2005; Schneider & McGrew, 2018) and many assessments of cognitive and intellectual abilities, including the Wechsler Intelligence Scale for Children (WISC-V) and the Woodcock-Johnson assessments have been structured within the framework of this theory. Additionally, hundreds of cognitive instruments have been classified according to CHC theory (Flanagan et al., 2017) and are supported by research (e.g., Niileksela & Reynolds, 2019).

CHC Broad and Narrow Abilities Defined. Abstracted from: Schneider, W. J., & McGrew, K. S. (2022). The Cattell-Horn-Carroll Theory of Cognitive Abilities. In D. P. Flanagan & Erin M. McDonough (Eds.),

*Contemporary intellectual assessment: Theories, tests and issues* (4<sup>th</sup> ed.,) New York: Guilford Press.)

[CHC Broad & Narrow Abilities](#)

Tools for CHC Interpretation of major cognitive batteries developed by Catherine Fiorello.

[WISC-V](#), [KABC II](#) and [WJ-IV](#)

CHC Abilities and Relations to Academic Achievement

Flanagan, D. P., Mascolo, J. T., Ortiz, S. O., & Alfonso, V. C. (2021). *Intervention Library: Finding Interventions and Resources for Students and Teachers*. © by authors and reproduced with permission.

[Ability Achievement Relations](#)

Linking CHC abilities to intervention tool developed by Cala Mackey Proctor and Gail Albright

[Linking CHC Abilities to Intervention](#)

## Appendix 2. Resources for the Evaluation of English Learners

**The Cultural-Linguistic Interpretive Matrix (C-LIM;** Flanagan et al., 2013) is one tool that may be useful when evaluating English Learners. The C-LIM provides a visual representation of narrow ability performance against the known pattern of obtained score decline based on the level of diversity for language proficiency and acculturation in a student's background. With the C-LIM, the evaluator has information to assist in determining whether the obtained testing results present a valid picture of the student's performance.

The second is a measure of **Diverse Student Normal Ability Performance (D-SNAP;** Prito & Ortiz, 2022). The D-SNAP also provides a visual representation of a student's performance, but rather than utilizing the narrow abilities for comparison purposes, the format is based on the obtained and predicted CHC broad ability performance. The comparisons are also made considering the student's level of diversity and resulting cultural-linguistic impact on test performance.

### C-LIM and D-SNAP Resources

<https://facpub.stjohns.edu/~ortiz/CLIM/>

Prito, L & Ortiz, S. (February 21-23, 2023). *Evaluation of Specific Learning Disabilities in English Learners: Visualizing Normal Ability Via Cattell-Horn-Carroll Theory of Cognitive Abilities Domain-Level Analysis* [Conference Session]. 60<sup>th</sup> International Conference; Learning Disabilities Association of America. Las Vegas, NV., United States.

Prito, L & Ortiz, S. (February 7-10, 2023). *Assessing Domain-Level Performance Impact for Diverse Students* [Conference Session]. National Association of School Psychologist Annual Convention. Denver, CO., United States.

Prito, L & Ortiz, S. (June 6-23, 2022). *Evaluation of Specific Learning Disabilities in English Learners: Visualizing Normal Ability Via Cattell-Horn-Carroll Theory of Cognitive Abilities Domain-Level Analysis* [Virtual Conference Session]. Science to Practice Summer Equity Series; Learning Disabilities Association of America,

Prito, L & Ortiz, S. (January 27-30, 2022). *Visualizing the Normal Ability Profile for Culturally and Linguistically Diverse Students: Translating Science and Research into Practice.* 59<sup>th</sup> International Conference; Learning Disabilities Association of America, New Orleans, LA., United States.

### MultiTiered System of Supports for English Learners

Model demonstration research sponsored by the Office of Special Education Programs. U.S. Department of Education.

[Multitiered System of Supports for English Learners \(mtss4els.org\)](https://mtss4els.org)

### Colorín Colorado on special education and ELs

<http://www.colorincolorado.org/special-education-and-ells-event-archive>

*Should we evaluate students in their home language when possible?*

<https://youtu.be/mIEwRsRbYGM>

*Questions of Culture*

<https://www.youtube.com/watch?v=MLMb6mqDEdo&list=PLoU659hwTdDbmPLXRbCDXZK7qUBEvo4ya&index=7>

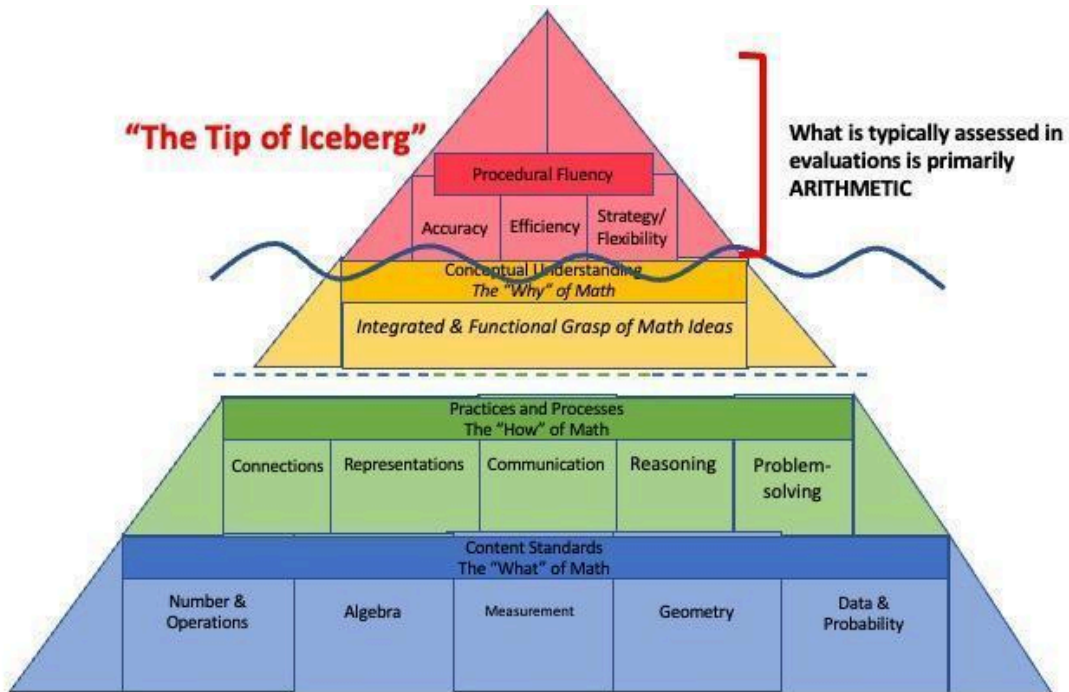
*Full playlist here:*

<https://www.youtube.com/playlist?list=PLoU659hwTdDbmPLXRbCDXZK7qUBEvo4ya>

### **Self-Assessment Checklist on Cultural Competency**

<http://www.nasponline.org/resources-and-publications/resources/diversity/cultural-competence/selfassessment-checklist>

### Appendix 3. Mathematics Assessment



- NCTM Assessment Standards:
- The Mathematics Standard
  - The Learning Standard
  - The Equity Standard
  - The Openness Standard
  - The Inferences Standard
  - The Coherence Standard

#### Appendix 4. Disability, Not Just “Difference”

The terms commonly used to describe the impact of these difficulties on an individual’s performance are *impairment, disability, or handicap*. Many professionals in the field, individuals with learning disorders and their families frequently express concerns that these terms carry a negative connotation when describing the impact that learning disorders have in their daily lives. However, this terminology is critical in understanding the cause, the diagnosis and the interventions that should be provided. Educational, psychological, and medical literature often use these terms interchangeably, which creates significant confusion. While they are closely related, impairment, disability and handicap have a very specific meaning that explicitly describes the impact in a person’s life that result from the different diagnoses associated with individuals with neurodevelopmental and neurobehavioral disorders. In 1980 the WHO defined these terms as follows:

- **Impairment:** “... a problem with a structure or organ of the body”. They further described it as “any loss or abnormality of psychological, physiological or anatomical structure or function” (World Health Organization, 2001).
- **Disability – Activity Limitation:** “...a functional limitation with regard to a particular activity”. In other words, the way in which an impairment limits the activities of an individual.
- **Handicap – Participation Restrictions:** “an environmental factor preventing the filling of a normal life role”. This definition describes how an impairment or disability affects a person's ability to function in an environment relative to the majority of the population. That is, the environment is structured (physical facilities, educational methodology and content) in a way that prevents the individuals from performing in a manner consistent with their peers.

For example, a functional impairment, such as processing deficits in phonological processing and rapid automatized naming, can indicate the presence of a specific reading disability, resulting in a significant restriction of the activity of reading. This inability to read may result in participation restrictions and become a handicap if the person cannot be provided with Universal Design for Learning accommodations as well as appropriate intervention.

In 2001, the WHO published the International Classification of Functioning, Disability and Health (ICF) that included the following list of activities that can impact a person’s ability to execute activities or may restrict their participation. These included:

- Learning and applying knowledge
- Managing tasks and demands
- Mobility (moving and maintaining body positions, handling and moving objects, moving around in the environment, moving around using transportation)
- Managing self-care tasks
- Managing domestic life
- Establishing and managing interpersonal relationships and interactions
- Engaging in major life areas (education, employment, managing money or finances)
- Engaging in community, social, and civic life

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