Clinical Guidance on Implementation

For the Identification of Students Suspected of Having a

Specific Learning Disability

Developed by the
Maine Association of School Psychologist

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MAINE CHAPTER 101
SPECIFIC LEARNING DISABILITY

Specific Learning Disability definition (MUSER VII.2.L):
The term 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. Specific learning disability does not include learning problems that are primarily the result of visual, hearing or motor disabilities, or intellectual disability, or emotional disturbance or environmental, cultural or economic disadvantage.

Part A: Qualifying Considerations

1. Does evidence from multiple valid and reliable sources demonstrate that the child is achieving adequately for the child's age and is meeting State-approved grade level standards in all of the areas below? (MUSER VII.2.L(2)(a)(i))	YES	NO
	☐	☐

For children from diverse cultural and/or linguistic backgrounds that place them outside the group on which standardized achievement tests were normed, consider only age or grade equivalent scores, not standardized scores. For such children, determinations in this section should be made using a multi-tiered problem-solving approach such as analysis of work samples and other performance data. (MUSER VII.2.L(2)(a)(c)).

If the answer to Question 1 is **YES,** the child does not qualify as a child with a specific learning disability under MUSER. Provide data supporting that determination in the area below marked "Verification" and proceed to Question 8.

If the answer to Question 1 is **NO,** indicate below the areas in which the child is not achieving adequately. Provide data supporting that determination in the area marked "Verification" and proceed to Question 2.

Oral expression	☐	**Reading fluency skills**	☐
Listening comprehension	☐	**Reading comprehension**	☐
Written expression	☐	**Mathematic calculation**	☐
Basic reading skill	☐	**Mathematics problem-solving**	☐
Verification			

Guidance on Implementation:

*Documentation of assessment of the student's achievement must be provided in all of the areas of suspected learning disability (as identified in the referral documentation). The DOE has stated that, "It is important for the team to consider all available achievement data" (Learning Disability Evaluation Report Webinar) Thus, multiple means for measuring achievement are to be considered both according to the student's age and their grade level. In their webinar the DOE listed, "group-normed standardized assessments, state-wide or district-wide assessments, curriculum-based measures and classroom assessments based on state standards" as data that should ordinarily be included for consideration. The reader is referred to the guidance for Question #4, a, b & c (pages 10-14) for detail regarding the various types of achievement data to be considered as "evidence from multiple valid and reliable sources" It is important that **all** available data is considered, that no single measure is the sole deciding factor without regard to other data. A finding of low academic achievement is necessary, but not sufficient for SLD identification (poor achievement may be present for a variety of reasons, only one of which is SLD).*

1. Convergence of evidence:

Teams should consider the convergence of evidence from multiple sources in order to validate the student's lack of adequate achievement. "Response to quality instruction and intervention via progress monitoring, performance on norm-referenced, standardized achievement tests, evaluation of work samples, observation of academic performance, teacher/parent/student interviews, history of academic performance, data from other Multidisciplinary Team (MDT) (e.g., speech-language pathologist, interventionists, reading specialists)." (D. P. Flanagan, S. O. Ortiz, V. C, Alfonso, 2013, p. 235,)

2. Achievement relative to the student's age:

*Most of the data outlined above is based on the student's grade level. Age level data is also required to be considered. Age level achievement is typically measured through standardized achievement tests that provide age based norms. (Appendix I includes examples of the types of tests that can be used to obtain age-based norms in each of the eight areas of achievement.) These tests can be scored based on both age and grade level norms. In looking at variance between these norms, it is important to consider the level of curriculum to which the student has been exposed. For example; A student who has recently been retained will have already been exposed to the full year of curriculum at their current grade level whereas a student who was retained a year or more ago will not have been exposed to age level curriculum. This information should be taken into consideration when reviewing age and grade level norms. **Many individually administered standardized achievement tests include a single subtest to measure some of the eight areas of achievement. It is important that the team not base their decision on the results of this single subtest alone.***

3. *Achievement relative to State-Approved Grade Level Standards:*

Each district should have developed means for measuring student progress relative to state approved grade level standards as part of the ESSA and MLR requirements. These district-wide assessments need to include standards for grade level expectations and cut-off scores for meeting vs. not meeting grade level standards. In order to align these district-wide assessment results with SLD criteria, it will be necessary to identify which of the district assessments measure student progress in each of the eight areas of achievement listed in the SLD document.

4. *Determining Adequate Achievement:*

*No specific cut-off for determining "adequate" achievement is provided in the regulations. Most standardized tests use standard deviations (SD) as a statistical means for identifying whether or not a score is within the norm. In this system, if a score is within 1 standard deviation of the mean, it is viewed as within the norm. A score greater than 1 standard deviation below the mean (>1 SD <Mean) is considered outside the norm. If standard deviations are converted to percentiles, then a score >1 SD <Mean is generally below the 16% level. See Appendix II for calculating standard deviations for a variety of measures for scaled scores/percentile conversions. In looking at standards based report cards, the team may consider "Does not meet" as "inadequate". In looking at the student's response to pre-referral interventions, the team should consider whether or not the student's progress is starting to close the gap between their level of performance and that of their grade level peers. The reader is referred to Appendix III for detailed guidance on "adequate achievement". The reader is cautioned that these figures are offered as guidance and are **NOT** hard and fast cut-off rules, as no such rules are provided in the current regulations.*

5. *Children from diverse cultural and/or linguistic backgrounds:*

As noted above, only age and grade-equivalent scores, not standardized scores, shall be considered for children who come from a culturally or linguistically diverse background, have physical disabilities or other contributing factors that result in no normed instruments being available. For such children, determinations in this section should be made using a multi-tiered problem-solving approach such as analysis of work samples and other performance data. (MUSER VII.2.L(2)(a)(c)). When a student is referred for determination of eligibility, the team should check to see if the student is identified as an English Language Learner (ELL). The student's cumulative file will contain the WIDA score on which this determination is based. If the student is identified as ELL, be sure to invite an ESL educator to the meeting at which determinations will be made as to the assessments to be conducted. See Appendix IV for more extensive information for assessment of culturally and linguistically diverse children.

	YES	NO
2. If the child is not achieving adequately in all areas, is the underachievement due to the lack of learning experiences and instruction appropriate for the child's age or state approved grade level standards? (MUSER VII.2.L(2)(a)(1))	☐	☐

Verification:

In making this determination, the Team must:

a.　　Consider whether the child, prior to or as a part of the referral process, was provided appropriate instruction in regular education settings, delivered by qualified personnel (MUSER VII.2.L(2)(b)(i)(I)); **and**

b.　　For culturally and linguistically diverse children and children from diverse educational backgrounds, consider the extent to which the child has been exposed to culturally and linguistically appropriate instruction.

If the answer to Question 2 is **YES**, the child does not qualify as a child with a specific learning disability under MUSER. Provide information supporting that determination in the area below marked "Verification" and proceed to Question 8.

If the answer to Question 2 is **NO**, provide information supporting that determination in the area marked "Verification" and proceed to Question 3.

Guidance on Implementation:

The school must provide information that documents the provision of learning experiences and instruction appropriate for the student's age or State-approved grade level standards. Section III. General Education Intervention of the Chapter 101 Regulations (pg. 13) specifies, "appropriate instruction in reading including the essential components of reading instruction as defined in section 1208(3) of the Elementary and Secondary Education Act of 1965 (ESEA) (20 U.S.C.A. 638(3), appropriate mastery based instruction in math, appropriate instruction in the writing process, and positive behavioral supports."

1. ***If the team determines that there is a lack of adequate instruction, the DOE has emphasized that the teams must consider whether the lack of instruction is the primary cause of failure to achieve.***

2. ***Adequate Instruction:***
   Documentation indicating that the student was offered and accessed adequate instruction is necessary. Adequate instruction should include, at a minimum, instruction targeted to the student's specific area of academic weakness, including general education interventions. Factors to be considered under this section may include, but not be limited to, the following:
       Chronic Absence
       Frequent Moves
       Curriculum that does not meet Maine's state approved grade level standards

Curriculum that does not include the essential components of reading and/or other areas identified in Chapter 101(pg.13)

3. ***For culturally and linguistically diverse children and children from diverse educational backgrounds***:
It is typical for English Language Learner students to have a slower rate of academic performance than native English speaking students. (See Appendix IV)

3.	If the child is not achieving adequately in all areas, is the child's lack of achievement primarily the result of any of the following factors? Provide evidence supporting each determination in the areas below marked "Verification."

a. Visual, hearing or motor disability (MUSER VII.2.L(2)(a)(iii)(aa))

YES	NO
☐	☐

Verification:

b. Intellectual disability (MUSER VII.2.L(2)(a)(iii)(bb))

YES	NO
☐	☐

Verification:

c. Emotional disturbance (MUSER VII.2.L(2)(a)(iii)(cc))

YES	NO
☐	☐

Verification:

d. Environmental, cultural or economic disadvantage and/or limited English proficiency (MUSER VII.2.L(2)(a)(iii)(dd-ff))

YES	NO

	☐	☐

Verification:

If the answer to any sub-part of Question 3 is **YES**, the child does not qualify as a child with a specific learning disability under MUSER. Proceed to Question 8.

If the answer to all sub-parts of Question 3 is **NO**, proceed to question 4.

Guidance on Implementation:

Question 3 remains the same as the previous SLD document. The question does not ask if the student has an intellectual disability, emotional disturbance, hearing disability, etc. but whether any such disability is a primary cause of the student's failure to achieve adequately.

1. ***Direct assessments will address referral questions:***

    Direct assessment of these exclusionary factors are not routinely administered for students referred for identification of a possible SLD. If concerns in any of the exclusionary areas arise during the referral/evaluation process, then direct assessment procedures should be considered.

2. ***Data sources may include:***
    - *Visual, hearing, or motor disability: Health screenings, medical records, and observations*
    - *Intellectual disability: Developmental screenings and history, cognitive scores, adaptive skills, and classroom performance data*
    - *Emotional Disturbance: Mental health records, social-emotional screenings, disciplinary records, attendance, classroom observations, behavior rating scales, parent and teacher reports*
    - *Environmental cultural, or economic disadvantage and/or Limited English proficiency: WIDA scores, ACCESS scores, parent/guardian reports, documentation of chronic life disruptions, chronic absenteeism*

4. Does the child exhibit a pattern of strengths and weaknesses in performance, achievement, or both, relative to age, state-approved grade level standards or intellectual development that is determined by the IEP Team to be relevant to the identification of a specific learning disability, using appropriate assessments? (MUSER VII.2.L(2)(a)(ii))	YES	NO
	☐	☐

For culturally and/or linguistically diverse children, consider the patterns of strengths and weaknesses that are consistent with that population, e.g., many English learners struggle with literacy skills but perform better in less language-based skills such as math calculation.

If the answer to Question 4 is NO, the child does not qualify as a child with a specific learning disability under MUSER. Proceed to Question 8.

If the answer to Question 4 is YES, proceed to question 5.

Guidance on Implementation:

"By definition, SLD is marked by dysfunction in learning, most often in the academic skills arena. That is, the acquisition and development of academic skills is somehow disrupted from its normal course of learning on the basis of some type of inherent disorder or dysfunction." *(Flanagan, Ortiz, and Alfonso, 2013, pg. 241) When a student's performance and/or achievement across the different academic areas is somewhat uniformly depressed, rather than showing strengths in some academic areas but weakness in others, and is consistent with the student's intellectual development, this generally does not fit the profile of a student with a specific learning disability, but rather a general learning difficulty (See Appendix V). In making the determination as to the presence or absence of such a pattern, the question asks the team to consider four different sources of data.* ***After reviewing the data in each sub-section of Question 4, the team will then consider whether the*** totality ***of that data reveals a pattern of strengths and weaknesses relevant to the identification of a SLD (Appendix VI provides guidance in determining a pattern of strengths and weaknesses).***

1. *Performance versus Achievement:*
   "Performance" refers to how the student performs in the classroom
   "Achievement" refers to how the student performs on academic assessments.

2. *Uniformly Consistent Scores:*
   A student whose performance and achievement scores are uniformly depressed and are consistent with the student's intellectual development does not demonstrate a pattern of strengths and weaknesses consistent with a specific learning disability, in contrast to a student whose performance and achievement scores show variable strengths and weaknesses across academic areas.

3. *Outmoded "Discrepancy Model":*
   A pattern of strengths and weaknesses should ***not*** *be confused with the outmoded "discrepancy model" which was based on a significant discrepancy between a student's cognitive function and academic achievement.*

4. *Data for Culturally and/or Linguistically Diverse Students:*

The team must take into consideration the pattern of strengths and weaknesses that are consistent with that population to help determine whether or not a SLD is the most likely explanation for the inconsistency in their academic skills (See Appendix IV).

		Verification of Strengths	Verification of Weaknesses
a.	**Data collected when using a process that is based on the child's response to scientific research-based intervention, including general education interventions under MUSER Section III. (MUSER VII.2.L(2)(a)(ii)(aa))**		

Guidance on Implementation:

All districts should have adequate procedures and data to determine if the student is making sufficient academic progress in the eight areas of concern identified in Question #1 above.

*1. **Criteria for RTI:***

The response to scientific research based intervention must meet the criteria and procedures detailed in MUSER Section III: General Education Intervention (Appendix VII includes excerpts from section III relative to the procedures for measuring progress through RTI.)

*2. **Use Multiple Data Points:***

It is important for the team to use multiple data points that reflect a trend of progress over time and not any one single data point.

*3. **Determining Inadequate Progress:***

Inadequate progress is indicated when the pre-referral team determines that:

a.   The gap between the child's educational performance and the goal set for his or her grade level has not decreased satisfactorily, or

b.   The interventions are demonstrated to be effective at decreasing the gap but require continued and substantial effort that may include the provision of special education and related services. This would represent a level of effort that exceeds that is provided to other students who are receiving instructional intervention at this level of support within the school's multi-tiered support system.

(Appendix VIII provides examples for making determinations of 'sufficient progress')

4. Verification of Strengths in Response to Scientific Research-Based Intervention, including general education interventions:

> *A verification of a strength may include data suggesting that the student is meeting the expected rate of progress. Verification of strengths may also include academic areas that meet grade level standards/benchmarks and thus are not progress monitored.*

5. Verification of Weakness in Response to Scientific Research-Based Intervention, including general education interventions:

> *Verification of weakness may include progress-monitoring data that reflects minimal progress that is not closing the achievement gap. Consideration may also include the student's average rate of improvement compared to the expected rate of improvement.*

6. Examples of Response to Intervention Data:

> *Verification sources may include progress-monitoring data on curriculum-based assessments and formative assessments. The formative assessments should provide an effective measure of the specific academic skill(s) being targeted, be sensitive enough to measure small gains and have a means for comparing the student's progress to that of other students. Examples include, but are not limited to, the AIMSweb, STAR, and DIBELS Next measures, Easy CBM, Scholastic Reading Inventory (SRI), and Measures of Academic Progress (MAP).*

b.	Classroom performance data. (MUSER VII.2.L(2)(a)(ii)(bb))		

Guidance on Implementation:

Each district should have developed means for measuring student progress relative to state approved grade level standards as part of the ESSA and MLR requirements. These district-wide assessments need to include standards for grade level expectations and cut-off scores for meeting vs. not meeting grade level standards. In order to align these district-wide assessment results with SLD criteria, it will be necessary to identify which of the district assessments measure student progress in each of the eight areas of achievement listed in the SLD document.

1. "Performance" refers to how the student performs in the classroom.

2. Performance Indicators versus Unit-Based Learning Objectives (*From Maine DOE site http://www.maine.gov/doe/proficiency/standards/pbls-model.htm)*

> **Performance Indicators**. These are statements describing the depth and breadth of the content area standards. The Maine Learning Results provides these statements for career and education development, health education and physical education, science and technology, social studies, visual and performing arts, and world languages. The updated English language and mathematics standards have comparable expectations.

Performance indicators provide more specific descriptions of what it means to meet a content area standard. Usually, when students engage in a summative assessment aligned with a particular standard, it is at the performance indicator level against which they are assessed. It is the aggregate over time of a student's performance against these performance indicators that collectively determine whether students have met their related standard. Schools may elect to add expectations to performance indicators and may reorganize the performance indicators to report proficiency for the purpose of awarding a proficiency-based diploma.

Unit-Based Learning Objectives. The teacher-identified components of the performance indicators that guide the day-to-day lessons are designed to move students toward proficiency. Formative assessments are linked to the unit-based learning objectives and provide educators with feedback about student progress toward the performance indicators.

3. *Examples of Classroom Performance Data:*
   a. *Observations: This data is collected by directly observing the student in the classroom setting during instructional activities in the academic area(s) listed in Question #1 as well as in at least one area not listed in Question #1. The observation should include a description of the student's performance as well as a reference to the performance of his/her mainstream peers. The observation may reference the student's work samples completed during the observation. Observations may represent those completed by an outside observer as part of the special education evaluation process as well as those completed by school staff as part of their work with the student.*
   b. *Work Samples: Work samples refer to work products created by the student in the course of instruction. Work samples that show areas of strength as well as areas of weakness should be reviewed. The samples reviewed should be representative of the student's daily work, not an isolated example of strength or weakness. It will be important to include information regarding how this student's work samples compare to that of other students in the classroom.*
   c. *Progress on Performance Indicators: Learning reports, progress reports, and report cards may reflect students' strengths and weaknesses on grade level performance indicators when credible evidence is used to determine their score. When determining areas of strengths, students should be receiving a score of 'meets' or 'exceeds' on the overall performance indicator for their grade level or grade levels above their enrollment grade. Areas of weakness may reflect a score of 'does not meet' for the overall performance indicator at or above their enrollment grade. The team may also note a weakness when a student is 'partially meeting' a performance indicator at a grade level below their enrolled grade. The team should document areas of strength and weaknesses based on the cumulative performance of grade level standards that provide*

a score for the performance indicator. A score on unit-based learning objectives should not be used as a case for a strength or weakness.

d. **Curriculum Based Assessments:** *These assessments should meet the following requirements: (1) measurement materials are aligned with the school's curriculum; (2) measurement occurs frequently; and (3) assessment information is used to formulate instructional decisions (See Appendix IX for further definitions).*

e. **Learning Reports/Grades:** *The team should consider the student's grades or other school-wide form of tracking and reporting student progress. Typically letter grades of 'D' or below, number grades <70 and ratings of 'limited progress', 'not meeting standards' or 'below expectations' are considered inadequate progress, though the team should use local norms and their judgement in making such decisions. In contrast, grades and other forms of reporting above those noted above may be considered as strengths. As in other areas, it will be important to review the individual student's learning reports in the context of other students in their class and/or grade level. For additional information on and examples of standards based grading see Appendix X.*

c.	Achievement data based on summative assessments in the district's core curricula, State assessments and/or published nationally norm-referenced assessments. (MUSER VII.2.L(2)(a)(ii)(cc))		

Guidance on Implementation:

The team will consider how the student performs on summative assessments, state-wide assessments, and/or nationally normed referenced assessments that have already been documented as the achievement deficits noted in Question #1.

1. ***Summative Assessments***

   Summative assessment is a form of evaluation used to describe the effectiveness of an instruction program or intervention, that is, whether the intervention had the desired effect. With summative assessment, student learning is typically assessed at the end of a course of study or annually (at the end of a semester school year). These do not include formative assessments, which is a form of evaluation to plan instruction. (See Appendix IX for further definitions).

   - *Examples of summative assessments in the district's core curricula may include, but are not limited to: NWEA, DRA-2, Lexile scores, assessment data reflected through the use of an instructional program (i.e. Read 180, end of an Everyday Math unit, etc.)*
   - *Verification of a strength may be documented when the student shows growth toward the documented benchmark for that assessment.*

- *Verification of a weakness may be documented when a student has been taught (with repeated instruction and possible intervention) and continue to work on the skill/concept with no or limited progress.*

2. ***State assessments:*** *includes MEA and any other state-wide achievement testing.*

3. ***Published nationally norm-referenced assessments:*** *refers to individually administered, standardized achievement tests (See Appendix I).*

d.	**Psychological processing data from standardized measures to identify contributing factors, including standardized composite scores from nationally norm-referenced measures of skills such as, but not limited to, phonological processing, information retrieval and processing speed, language, working memory, long-term memory, short-term memory, auditory processing, visual spatial reasoning. (MUSER VII.2.L(2)(a)(ii)(dd))**		

For culturally and/or linguistically diverse children, consider the patterns of strengths and weaknesses that are consistent with that population, e.g., many English learners struggle with literacy skills but perform better in less language-based skills such as math calculation.

If the answer to Question 4 is **NO,** the child does not qualify as a child with a specific learning disability under MUSER. Proceed to Question 8.

If the answer to Question 4 is **YES,** proceed to question 5.

Guidance on Implementation:

Question #4 of the LD document asks the IEP Team to determine if, "the student exhibits a pattern of strengths and weakness …. that is determined, by the IEP team, to be relevant to the identification of a specific learning disability, using appropriate assessments". The psychological processing data continues to be considered, but in the context of determining whether the student exhibits a pattern of strengths and weaknesses relevant to the identification of a SLD.

1. ***Section 4d. provides for a two-fold process:***
   a. *One is to identify if the student presents with a pattern of strengths and weaknesses. From the cognitive perspective, this may include assessing the student's overall intellectual ability to help the team determine whether or not the student's academic performance and achievement are internally consistent with their intellectual development. This is not the same as the discrepancy*

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model in that it is not necessary to identify a specific discrepancy between achievement and overall IQ. Rather, the purpose is to differentiate between a General Learning Difficulty and a Specific Learning Disability. (See Appendix V for guidance in differentiating between Intellectual Disability, General Learning Difficulty, and Specific Learning Disability)

Students with a General Learning Difficulty present with relatively global academic and cognitive delays that are not severe enough to warrant a diagnosis of intellectual disability, yet also do not include statistically significant patterns of strength and weakness in their academic performance/achievement or in their cognitive processing. The pattern here is of consistently low academic performance and achievement and consistently low intellectual development with standard scores often being in the 1-2 Standard Deviations below the mean (70's and low 80's). Students with this profile may have some minor strengths and/or weaknesses. Scores on specific achievement and/or intellectual assessments may be within the average range (>84) or well below average (<70), but the differences are not statistically significant compared to their performance in most other areas and are not unexpected for a student with a General Learning Difficulty. For example, students with this profile often perform somewhat better on measures of concrete thinking or rote memory and thus can memorize basic math facts and simple sight words, while performing lower in measures of higher level reasoning such as comprehension of abstract concepts and performance of complex procedures such as reading comprehension and math reasoning tasks. (See this article on Rescuing students from the Slow Learner Trap for more information on the characteristics of these students and effective strategies for support:
https://www.nasponline.org/Documents/Resources%20and%20Publications/Handouts/Families%20and%20Educators/Slow_Learners_Feb10_NASSP.pdf)

b. The second process involved in this step is to analyze the pattern of a student's academic strengths and weaknesses in conjunction with their cognitive strengths and weaknesses to help the team determine if this pattern is consistent with the identification of a Specific Learning Disability. The team is looking for convergence of data with regard to the specific academic deficit(s) identified in question #1 and specific areas of cognitive processing research has identified as correlating with those academic deficits. Thus, the cognitive testing should target these research-based correlating cognitive processes.

For example: For a student who has demonstrated inadequate basic reading skills, the cognitive assessment should target areas associated with the

development of basic reading skills such as phonological processing, visual scanning/tracking, orthographic processing, rapid automatic naming, visual-verbal associative memory and working memory. A deficit in one of these areas in a student with strengths in other areas would suggest a pattern of strengths and weaknesses that is likely to be relevant to the identification of SLD.

In contrast, if the cognitive assessment identified strengths in the areas research has correlated with the academic weakness and only identified a weakness in an area that research has not correlated with the specific academic weakness, the team is likely to determine that this pattern is not relevant to the identification of SLD. Therefore, the team may look elsewhere for the cause of the academic deficit. Appendix XI provides information on two commonly used models of psychological processing and includes charts showing correlations between specific academic skills and the associated cognitive processing areas according to the CHC and Integrated School Neuropsychology/CHC model.

2. Evaluators are reminded of the requirement in MUSER V 2 B(2) and similar requirements in federal regulations that assessments must not be limited to a single measure or instrument. In order to adequately measure all cognitive processes, multiple measures must be used.

Best practice suggests that multiple measures of a specific process should be administered and that the composite, cluster or index score should be utilized in calculating whether this score represents a significant strength or weakness (See Appendix II). It is also important to remember that inconsistencies within composite areas must be resolved through further testing using subtests/tests that measure similar constructs (i.e. fluid reasoning, comprehension/knowledge, auditory processing, etc.) The current regulations do not provide cut-off scores for calculating statistically significant strengths or weaknesses. Many assessment instruments provide publisher based statistical calculations of strengths and weaknesses. When these are not available, such as when comparing scores between different instruments, teams are encouraged to use best practices. Often, the standard deviation or confidence interval are used as guidelines for determining statistically relevant variance.

3. Considerations when assessing students who come from culturally and linguistically diverse backgrounds:

Chapter 101 includes an exemption of the requirement for identifying a processing disorder using standardized measures for students who come from culturally and linguistically diverse backgrounds, have physical disabilities or other contributing factors that result in no normed instruments being available. For students who are outside the cohort on which the standardized assessments are normed, it is recommended that

teams use a combination of grade based norms and data from a multi-tiered problem solving approach such as analysis of work samples and other performance data to determine the likelihood of a learning disability.

5. **Relevant behavior noted during the observation(s) and its relationship to academic functioning (MUSER VII.2.L.(2)(f)). The child must be observed in the learning environment (including the regular classroom setting) to document the child's academic performance and behavior in the areas of difficulty. (MUSER VII.2.L(2)(f)(i))**

NOTES:

Guidance on Implementation:

Question 5 remains the same as the previous LD document. All students, who are being evaluated for eligibility under the category of SLD, must be subject to an observation in their learning environment to document the student's academic performance and behavior in the area of difficulty. For ELL learners or other students for whom group-normed assessments are not available, these observations will form a more central part of the decision making process. The team will document what the observer noted that supports the determination that the student does or does not have a learning disability.

6. **Educationally relevant medical findings (MUSER VII.2.L(2)(g)(i)(IV)**

NOTES:

Guidance on Implementation:

Question 6 remains the same as the previous LD document. The team will record any relevant medical findings that may bear on the issue of the existence of a learning disability, such as an Attention Deficit Hyperactivity Disorder, Seizure Disorder, Tic Disorder, Mental Health Disorder (depression, anxiety, etc.), Diabetes, Traumatic Brain Disorder, or other medical condition that might better account for the student's learning difficulties.

7. **Are the evaluations utilized valid and reliable assessments and performed by qualified individuals? (MUSER V.2.C(1)(c)&(d))**	YES	NO
	☐	☐

If NO, provide verification:

Guidance on Implementation:

Question 7 remains the same as the previous LD document. The team will consider whether the instruments are normed and valid for the specific population represented by the student.

PART B: Conclusions

8. Does a specific learning disability exist? (MUSER VII.2.L(2)(g)(i)(I))		
	YES	**NO**
	☐	☐

If the answer to Question 8 is **NO**, the child does not qualify as a child with a specific learning disability under MUSER. If the answer is **YES**, proceed to question 9.

9. If there is a learning disability, the disability is of such nature and degree that [check one and summarize the basis for that selection in the area marked "Summary"]:	
☐	a. the child requires special education and related services. (MUSER V.2.F(2))
☐	b. it can be adequately addressed through general education interventions and/or accommodations.
Summary:	

If the box in question 9(a) is checked, the child qualifies as a child with a specific learning disability under MUSER. If the box in question 9(b) is checked, the child does not qualify as a child with a specific learning disability under MUSER.

Team members must certify their agreement or disagreement with this result by signing below:

I certify my agreement with the result of this report (MUSER VII.2.L(2)(g)(ii))

Signature	Printed Name	Title

I **do not** agree with the result of this report

Signature	Printed Name	Title

Dissenting team members shall submit a separate statement (MUSER VII.2.L(2)(g)(ii)).

Appendix I
Examples of Achievement Tests that Provide Age Level Norms

Appendix I
Examples of Achievement Tests that Provide Age Level Norms

Academic Assessment: Areas of Specific Learning Disability

Basic Reading Skill: The 'reading' of words that includes use of decoding strategies (transforming letter symbols into phonetic sounds and then into meaningful words) and sight word reading (automatic recognition of whole words).

1. Examples of Standardized Measures:
- WJ-IV
  - Letter Word Identification
  - Word Attack
  - Spelling of Sounds
- WJ-IV Oral Language
  - Phonetic Coding
  - Speed of Lexical Access
- TOWRE
  - Sight Word Reading and Decoding
- WIAT-III
  - Word Reading
  - Pseudoword Decoding
- GORT-IV
  - Sight Word List
  - Decoding List
  - Reading Accuracy
- KTEA-3
  - Letter and Word Recognition
  - Phonological Processing
  - Nonsense Word Decoding
- PAL-II
  - Pseudoword Decoding Accuracy
  - Sentence Sense Accuracy
  - Morphological Decoding Fluency – Accuracy Score
  - Find the True Fixes

2. Best Practices for Assessment:
   a. Measure letter identification, sight word reading and pseudoword reading.
   b. Measure skills in isolation and in context.
   c. Measure both accuracy and fluency of each.
   d. If the results of one measure are incongruous with the results of other measures, administer multiple measures of that construct.

Reading Fluency Skills: Reading accurately (with not too many miscues) at a reasonable rate and with a reasonable degree of expression.

1. Examples of Standardized Measures

 WJ-IV
  Word Reading Fluency (silent at sentence level)
  Oral Reading
  Sentence Reading Fluency
 GORT-IV
  Reading Fluency (oral at paragraph level)
 TOSWRF (silent at word level)
 TOWRE-2 (oral at word level)
 KTEA-3
  Silent Reading Fluency
  Word Recognition Fluency
  Decoding Fluency
  Associational Fluency
  Letter Naming Facility
 WIAT-III
  Oral Reading Fluency
 PAL-II
  Pseudoword Decoding Fluency
  Morphological Decoding Fluency
  Sentence Sense Fluency

2. Best Practices for Assessment:
 a. Measure both silent and oral reading fluency
 b. If the results of one measure are incongruous with the results of other measures, administer multiple measures of that construct.

Reading Comprehension: Understanding and deriving meaning from text while reading silently or orally.

1. Examples of Standardized Measures:

 WJ-IV
  Passage Comprehension (sentence level)
  Reading Vocabulary (word level)
  Reading Recall
 WIAT-III
  Reading Comprehension (paragraph)
  Oral Reading Fluency
 KTEA-3
  Reading Comprehension
  Reading Vocabulary

2. Best Practices for Assessment:
   a. Measure skills in isolation and in context.
   b. If the results of one measure are incongruous with the results of other measures, administer multiple measures of that construct.

Mathematics Calculation: Performing paper and pencil mathematical operations in isolation

1. Examples of Standardized Measures:
>   WJ-IV
> >   Calculation (untimed)
> >   Math Facts Fluency (timed)
>   WIAT-III
> >   Numerical Operations (untimed)
> >   Math Fluency – Addition (timed)
> >   Math Fluency – Subtraction (timed)
> >   Math Fluency – Multiplication (timed)
>   TOMA-II
> >   Computation
>   KTEA-3
> >   Math Computation
> >   Math Fluency
>   PAL-II
> >   Oral Counting
> >   Look and Write – Addition, Subtraction, Mixed Addition and
> > >   Subtraction, Multiplication, Division and Mixed Multiplication and Division
> >   Listen and Say – Addition, Subtraction, Mixed Addition and Subtraction,
> > >   Multiplication, Division and Mixed Multiplication and Division
> >   Computation Operations – Tasks A, B & C
> >   Finding the Bug

2. Best Practices for Assessment:
   a. Measure both accuracy and fluency
   b. If the results of one measure are incongruous with the results of other measures, administer multiple measures of that construct.

Mathematics Problem Solving: Demonstrating understanding and application of mathematical terms, concepts and procedures within a meaningful context.

1. Examples of Standardized Measures:
>   WJ-IV
> >   Applied Problems
> >   Number Matrices
>   WIAT-III
> >   Mathematical Reasoning

TOMA-II
    Vocabulary
    General Information
    Story Problems
    Attitude
KTEA-3
    Math Concepts and Applications
PAL-II
    Place Value – Oral, Written and Problem Response Written
    Part-Whole Relationships – Concepts, Fractions and Time
    Multi-Step Problem Solving

2. **Best Practices for Assessment:**
   a. Measure understanding/application of terms, concepts and procedures.
   b. If the results of one measure are incongruous with the results of other measures, administer multiple measures of that construct.

Written Expression: The production of letters to form words that includes use of encoding strategies (transforming phonetic sounds into letter symbols and then into meaningful words), and sight word spelling (automatic spelling of whole words); writing accurately (without too many errors) at a reasonable rate and with a reasonable degree of expression of understanding and meaning in text.

1. **Examples of Standardized Measures:**
   WJ-IV
       Spelling
       Writing Fluency (timed)
       Writing Samples (sentence level)
       Editing
   WIAT-III
       Spelling
       Alphabet Writing Fluency (timed)
       Sentence Composition (sentence level)
       Essay Composition (paragraph level)
   TOWL-3
       Contextual Conventions
       Contextual Language
       Story Construction
       Vocabulary
       Spelling
       Style
       Logical Sentences
       Sentence Combining

PAL-II
    Alphabet Writing
    Copying Tasks A & B
    Word Choice Accuracy & Fluency
    Narrative Compositional Fluency
    Expository Note Taking
    Expository Report Writing
    Cross Genre Compositional and Expository Writing
KTEA-3
    Written Expression
    Writing Fluency
    Spelling
OWLS
    Written Language Scale

2. **Best Practices for Assessment:**
   a. Measure at letter, word, sentence and paragraph levels.
   b. Measure accuracy of editing details
   c. Measure quality of communication
   d. Measure fluency.
   e. If the results of one measure are incongruous with the results of other measures, administer multiple measures of that construct.

Listening Comprehension (receptive language)
    WJ-IV Oral Language
        Understanding Directions
        Oral Comprehension
    WIAT-III
        Receptive Vocabulary
        Oral Discourse Comprehension
    KTEA-3
        Listening Comprehension
    CELF-V
        Receptive Language subtests

Oral Expression (expressive language)
    WJ-IV Oral Language
        Sentence Repetition
        Picture Vocabulary
    WIAT-III
        Expressive Vocabulary
        Oral Word Fluency
        Sentence Repetition

KTEA-3
    Oral Expression
 OWLS
    Oral Language Scale
 CELF-V
    Expressive Language Subtests

Appendix II

Standard Deviation Calculations

**Procedure for Deriving Single Standard Scores
From Subtest Scores Derived from Multiple Tests**

Percentile Rank and Standard Score Conversion Chart

Appendix II

Standard Deviation Calculations
Procedure for Deriving Single Standard Scores from Subtest Scores Derived from Multiple Tests
Percentile Rank and Standard Score Conversion Chart

General Considerations:

In the context of the SLD criteria, no specific cut-off scores are provided. Most standardized tests use standard deviations (SD) as a statistical means for identifying whether or not a score is within the norm. In this system, is a score is within 1 SD of the mean, it is considered to be within the norm. A score greater than 1 SD below the mean (>1SD<Mean) is considered outside the norm. There are differing formats for measuring means and standard deviations. Below you will find some examples of these formats along with a chart providing conversions between these formats. Best practice suggests that multiple measures of a specific skills and processes should be administered and that the **composite cluster** or **index score** should be utilized in calculating the standard deviation score.

For Tests with a Mean of 100 and Standard Deviation of 15

      A.   Index Scores:
          Mean = 100
          Standard Deviation = 15 points
               1 Standard Deviation below the mean = 85 (16th percentile)
               1 ½ Standard Deviations below the mean = 78 (7th percentile)

      B.   Subtest Scores:
          Mean = 10
          Standard Deviation = 3 points
               1 Standard Deviation below the mean = 7
               1 ½ Standard Deviations below the mean = 5.5

For Tests with a Mean of 50 and Standard Deviation of 10

      A.   Index Scores:
          Mean = 50
          Standard Deviation = 10 points
               1 Standard Deviation below the mean = 40 (16th percentile)
               1 ½ Standard Deviations below the mean = 35 (7th percentile)

For Tests with a Mean of 50 and Standard Deviation of 8

      A.   Index Scores:
          Mean = 50
          Standard Deviation = 8 points
               1 Standard Deviation below the mean = 42 (16th percentile)
               1 ½ Standard Deviations below the mean = 38 (7th percentile)

When deficits are less severe, it could be expected that remediation would be accomplished more quickly than if deficits are more severe. It is also important to remember that inconsistencies within composite areas must be resolved through further testing using subtests/tests that measure similar constructs (i.e. reading fluency, fluid reasoning, comprehension/ knowledge, auditory processing, etc.) For a composite score to be considered representative of an academic achievement or psychological processing deficit in the context of the SLD document, it is recommended that at least 2 scores are included with no significant variance. If variance is evident, additional testing should be attempted to resolve the variance.

Procedures for Deriving Single Standard Scores from Subtest Scores Derived from Multiple Tests

Step 1:   Identify the area of academic achievement or cognitive processes associated with specific areas of academic deficit

> Example: For reading fluency: Use multiple subtests such as Letter Naming Fluency, Word Reading Fluency and Sentence Reading Fluency and calculate composite score. To assess processing related to reading fluency, assess naming fluency and perceptual speed.

Step 2:   Administer at least 2 subtests for each identified achievement and cognitive processing area

> Examples: Reading Fluency Measures:
> > KTEA-3: Silent Reading Fluency
> > > Letter Naming Facility
> > > Decoding Fluency
>
> > Cognitive Naming Fluency Measures:
> > > NEPSY-2: Verbal Fluency or Speeded Coding
> > > WISC-V: Naming Speed
> > > PAL-II: Rapid Automatic Naming
> > > WJ-IV (Oral Language): Retrieval Fluency or Rapid Naming

> *If scores are not consistent (within 1 SD), then administer further subtests.*

Step 3:   Total subtest scores from all measures. (If necessary, convert scores to similar standardized scoring format.)

Example:			
NEPSY-2: Verbal Fluency	5	=	75
NEPSY-2: Speeded Coding	7	=	85
WISC-V: Naming Speed	76	=	76
PAL-II: Rapid Automatic Naming	6	=	80
Total Standard Scores			316

Step 4:   Divide total score by number of subtests administered to obtain mean score

Example: 316 Divided by 4 = 79

Step 5: Report this as the standard score to represent the specific area of academic achievement or cognitive processing when calculating whether the score represents adequate achievement or an academic or cognitive strength or weakness.

Example: 79 = 1.4 < Mean

Percentile Rank and Standard Score Conversion Chart

Percentile Rank	Mean = 100 SD = 15	Mean = 50 SD = 10	Mean = 10 SD = 3	Percentile Rank	Mean = 100 SD = 15	Mean = 50 SD = 10	Mean = 10 SD = 3
99.99	160	90		48	99	49	
99.99	159	89		45	98	49	
99.99	158	89		43	97	48	
99.99	157	88		40	96	47	
99.99	156	87		38	95	47	9
99.99	155	87		35	94	46	
99.99	154	86		33	93	45	
99.98	153	85		31	93	45	
99.97	152	85		29	92	45	
99.96	151	84		27	91	44	
9.95	150	83		25	90	43	8
99.94	149	83		23	89	43	
99.93	148	82		21	88	42	
99.93	147	81		19	87	41	
99.89	146	81		17	86	41	
99.87	145	80	19	16	85	40	7
99.84	144	79		14	84	39	
99.80	143	79		13	83	39	
99.75	142	78		12	82	38	
99.70	141	77		11	81	37	
99.60	140	77	18	9	80	37	6
99.57	139	76		8	79	36	
99	138	75		8	78	35	
99	137	75		7	78	35	
99	136	74		6	76	34	
99	135	73	17	5	75	33	5
99	134	73		5	74	33	
99	133	72		4	73	32	
98	132	71		3	72	31	
98	131	71		3	71	31	
98	130	70	16	3	70	30	4
97	129	69		2	69	29	
97	128	69		2	68	29	
97	127	68		2	67	28	
96	126	67		1	66	27	
95	125	67	15	1	65	27	3
95	124	66		1	64	26	
94	123	65		1	63	25	
93	123	65		1	63	25	
92	122	64		1	62	25	
91	121	63		.49	61	24	
90	120	64	14	.36	60	23	2
89	119	63		.30	59	23	
88	118	62		.25	58	22	
87	177	61		.20	57	21	
86	116	61		.16	56	21	
84	115	60	13	.16	55	20	1
83	114	59		.11	54	19	
81	113	59		.09	53	19	
79	112	58		.07	52	18	
77	111	57		.06	51	17	
75	110	57	12	.05	50	17	
73	109	56		.04	49	16	
71	108	55		.03	48	15	
69	108	55		.02	48	15	
67	107	55		.01	47	15	
65	106	54		.01	46	14	
65	105	53	11	.01	45	13	

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62	104	53		.01	44	13	
57	103	52		.01	43	12	
55	102	51		.01	42	11	
52	101	51		.01	41	11	
50	100	50	10	.01	40	10	

Appendix III

Guidance on Determining Adequate Achievement

Appendix III

Guidance on Determining Adequate Achievement

Measuring Adequate Academic Achievement

Neither federal nor state regulations provide a specific set of criteria for making a determination as to what level of achievement is considered adequate. The following guidance on making such determinations is offered, based on general statistical properties of standardized assessment instruments and on features of child development:

1. When using achievement tests that provide standard scores (such as those listed in Appendix I) the following guidance is offered:
    a. Any score greater than 1 standard deviation below the mean may be considered as inadequate.
    b. The IEP Team is encouraged to take confidence intervals (standard errors of measurement or SEM) into consideration when appropriate.
2. When using measures of achievement that provide percentile scores, the following guidance is offered:
    a. Any score below the 16% level may be considered inadequate.
    b. The Team is encouraged to take confidence intervals (standard errors of measurement – SEM) into consideration when appropriate.

Additional information regarding weaknesses and deficits might be helpful in understanding adequate achievement. On standardized, norm-referenced tests, most individuals (approximately 70%) perform within the range of normal limits (standard scores between 85 and 115). *Weaknesses* are associated with scores of 85 to 89. Although standard scores of 85 to 89 fall within normal limits, they reflect performance that is best described as slightly below-average and abilities/processes that are reflective of such scores may well interfere with the individual's ability to learn and acquire skills. *Deficits* are associated with scores below 85.

Given the reality of weaknesses and the statistical properties of confidence levels, interpreting scores in this very narrow range (85-89) usually requires clinical judgment as abilities associated with these scores may or may not pose significant difficulties for the individual. Determining whether an individual has a weakness or a deficit may be clarified through further or deeper assessment and/or considering corroborating data sources.

Appendix IV

Procedures for students with culturally or linguistically diverse backgrounds, physical disability or other contributing factors that result in no normed instruments being available to measure cognitive processing and/or overall cognitive functioning.

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Procedures for students with culturally or linguistically diverse backgrounds, physical disability or other contributing factors that result in no normed instruments being available to measure cognitive processing and/or overall cognitive functioning.

Assessment of English Language Learner (ELL) Students

Both IDEA and Chapter 101 regulations require that assessments and other evaluation materials be used to assess a child. In Chapter 101, Section V. Evaluations and Reevaluations 2.C. provides the following guidance on assessing students who may have diverse racial, cultural and linguistic backgrounds:

Other Evaluation Procedures [34 CFR 300.304(c)]--Each SAU shall ensure that:

(1) Assessments and other evaluation materials used to assess a child under this section:
- Are selected and administered **so as not to be discriminatory on a racial or cultural basis**;
- **Are provided and administered in the child's native language or other mode of communication and form most likely to yield accurate information on what the child knows and can do academically, developmentally, and functionally,** unless it is not feasible to so provide or administer;
- Are used for purposes for which the assessments or measures are **valid and reliable**;

2. Assessing Cognitive Processing Disorders and IQ with ELL students:
- There are NO cognitive processing measures that are standardized on English Language Learners (non-native English speakers). That means that there are NO standardized tests of processing that can be considered reliable and valid for use with ELL students.
- There are a few **nonverbal** intellectual assessment measures that are standardized on **some** ELL populations:
    - Universal Nonverbal Intelligence Test (UNIT)
    - Wechsler Nonverbal Scale of Ability (WNS)
    - Kaufman Assessment Battery for Children, Second Edition (KABC-II)
    - Differential Abilities Scale, 2nd Edition
    - ***Note: None of these are standardized on African and Asian populations for the purpose of identifying cognitive processing disorders.***
- The standardized assessment of cognitive processing disorders can only be done with native English speakers. It cannot be fairly (ethically, reliably, validly) done with ELL/non-native English speakers.

3. Assessing Academic Achievement with ELL students:
- There are NO standardized/individualized measures of academic achievement that have been standardized on ELL/non-native English speakers.

- The WIAT-III and KTEA-3 manuals explicitly state that non-native English speaking populations were excluded from the standardization sample/population.
- If the WIAT-III or similar instruments are used with ELL students:
  - Only raw score derived scores (e.g., age and grade equivalent scores) should be computed
  - These scores provide an indication of the amount of English-based academic skill a student has amassed in his/her time in this country (not from a standardized perspective, but simply from a 'how much has the child learned?' perspective).

4. IDEA & Chapter 101 include the following exclusionary criteria in describing the procedure for identifying a student with a Specific Learning Disability in Section VII 2. L. c. i. III:
- The group determines that its findings under paragraphs (i)(I) and (II) of this section are not primarily the result of—
  - (aa) A visual, hearing, or motor disability;
  - (bb) Mental retardation (now known as intellectual disability);
  - (cc) Emotional disturbance;
  - (dd) Cultural factors;
  - (ee) Environmental or economic disadvantage; or
  - (ff) **Limited English proficiency.**

Given the requirements for using non-discriminatory assessment measures (that are administered in the child's native language and are only used for the purpose for which they were developed) and the fact that there are no measures currently available for assessing students who are not native English speaking that meet these criteria, it is our understanding that, at this time, the only way to meet these requirements is to employ assessment methods that **avoid** the use of standardized intellectual, processing, and academic achievement measures. Rather, the assessment procedures will center on response to intervention/multi-tiered problem-solving approaches.

The following information is offered for consideration by teams in their problem-solving efforts.

1. It is typical for English Language Learner (ELL) students to have a slower rate of academic progress than native English speaking students. On the 2007 National Assessment of Educational Progress, 4th grade ELL's scored 36 points below non-ELL's in reading and 25 points below non-ELL's in math. The gap among 8th grade students was even larger; 42 points in reading and 37 points in math. (Goldenberg) Thus, it is important to understand that a gap in achievement does not necessarily mean the student from a diverse background has a disability.

2. In reviewing whether or not a student has responded to intervention it is important to recognize that ELL instruction is not a tier 2 intervention, but rather the standard tier 1 instruction for ELL students. Academic instruction for ELL students at tiers 1 and 2 should utilize methodologies that have been demonstrated to be effective for the ELL population, such as the PLUSS model for reading instruction (Alfonso, Flanagan & Mascola). It will be

important for the I.E.P. Team to identify the more targeted tier 2 instruction tailored to ELL students that was provided prior to referral.

3. In considering data from a Multi-Tiered Support System intervention program (MTSS) such as Response to Intervention (RTI), it is not expected that an ELL student will make the same progress as peers. Thus the team must look at multiple factors in considering whether the student is making adequate progress according to benchmarks, work samples and other available data.

4. The age at which the student was initially exposed to the English language, the degree of proficiency they had attained in their native language, the length of time they have been exposed to English and the quality of English and/or Bilingual instruction they have received are all factors that affect the student's expected rate of academic progress.

5. The form of instruction for ELL students has a direct correlation to their expected achievement, with two-way bilingual education programs providing the best opportunity for ELL students to close the achievement gap. ELL students who are provided with traditional (non-content) pullout services typically do not make academic progress at the same rate as their native English speaking peers. Generally, 60% of these students will fall in the at-risk range on achievement measures. (Ortiz, *Assessment of English Language Learners: Evidence-based evaluation and best practice,* Westbrook School Department Presentation, March 12, 2015).

6. The most meaningful MTSS data for purposes of identification would be to compare the student's progress to that of other ELL students with similar backgrounds and similar instructional interventions. Since at this time such data is not available on either a state or national level, the best option would be to compile local norms. If such norms are not available, the I.E.P. team would need to evaluate student monitoring data on a case-by-case basis, looking for signs of steady academic gains or the lack thereof. There is some available data that provides a general idea of the trajectory of progress for ELL students (Ortiz).

7. Standardized achievement testing is among the testing that has not been normed on ELL students, thus standard scores from these tests are not considered valid for this population and should not be considered by the I.E.P. Team. Age and grade equivalency scores do provide data regarding the level of achievement the student is demonstrating, and thus may be considered by the I.E.P. Team, as long as this is within the context of other data sources.

8. There are some guidelines available for using standardized measures of intellectual functioning to obtain data that is relevant to the eligibility decision-making process. If a student obtains average scores on standardized tests administered according to standard procedures despite cultural, linguistic and other contributing factors, then it is safe to conclude there are no underlying processing disorders. If the student scores poorly on measures of specific processes when the test is administered in English, but scores within the average range when the test is administered in the student's native language, then it is

safe to conclude that the difficulty is in the area of language acquisition, not an underlying processing disorder. If the student scores below the expected level on measures of psychological processing, which are correlated with language and cultural development, then it is recommended that the pattern of scores be compared with that of other students with similar histories to see if it is consistent with the expected pattern, or not consistent. (Ortiz, in press). It is important that the team only use this standardized test data as one portion of the eligibility decision-making process.

Many thanks to Samuel Ortiz, Ph.D. for his generosity in allowing us to use information from his presentation on the Assessment of English Language Learners: Evidence-based evaluation and best practice, at the Westbrook School Department on March 12, 2015. The reader is referred to his publications to gain more detailed information on the process of evaluating and education English Language Learner students.

Alfonso, Flanagan & Ortiz (2013) Essentials of Cross Battery Assessment, 3rd Edition, Wiley (www.wiley.com) Note - updated CD for ELL assessment currently in production

Brown & Ortiz, (2014) Interventions for English Learners With Learning Difficulties, in Alfonso, Flanagan & Mascolo Essentials of Planning, Selecting and Tailoring Interventions for Unique Learners 267-313, Wiley (www.wiley.com)

Goldenberg, C. (2008) *Teaching English Language Learners. What the Research Does - and Does Not - Say* American Educator, 32 (2) 8-23, 42 & 44.

Ochoa, Ortiz & Rhodes (2005) Assessing Culturally and Linguistically Diverse Students: A Practical Guide (Practical Intervention in the Schools). Guilford Press (www.guildford.com)

Ortiz, Samuel O. (2004) Comprehensive Assessment of Culturally and Linguistically Diverse Students: A Systematic Approach for Nondiscriminatory Assessment.(www.nasponline.org/resources/cultural competence/ortiz.pdf)

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Appendix V
Differentiating Intellectual Disability (ID), General Learning Difficulty (GLD) and a Specific Learning Disability (SLD)

Appendix V
Differentiating Intellectual Disability (ID), General Learning Difficulty (GLD) and a Specific Learning Disability (SLD)

Instruction for use: This information is intended to guide assessment teams and should be considered along with the team's knowledge of the student as well as assessment data. Decisions about assessment and eligibility should not be based solely on this document.

Characteristics

Intellectual Disability	General Learning Difficulty	Specific Learning Disability
Little variance in cognitive ability and processing profile	Little to moderate variation in cognitive ability and processing profile	Moderate to high or statistically significant variation in cognitive ability and processing profile
All or nearly all cognitive areas </= 70 standard score	May have normative deficits in one or more cognitive and academic areas	Normative deficits in specific cognitive abilities and processes. Normative deficits in specific academic area(s). Empirical or ecologically valid relationship between cognitive and academic deficits
Possible relative strengths in one or more processes or activities that are not highly related to general intelligence such as phonemic awareness simple clerical type tasks or social skills	May have relative strengths in one or more processes or activities	Intact functional in many processes and abilities and possible normative cognitive and academic strengths
Deficits </= 70 standard score in adaptive behavior little variance in performance across adaptive behavior domains	May have one or more deficits in adaptive behaviors (but not in all domains)	Minimal to no deficits in adaptive behavior

Etiology

Intellectual Disability	General Learning Difficulty	Specific Learning Disability
Normative cognitive deficits are explained by genetic conditions, problems during pregnancy, problems at birth, problems after birth	Underlying causes of generally low average cognitive and academic activities are typically not known	SLD has a neurobiological basis. The pattern of generally average or better overall cognitive ability and below average performance in related cognitive and academic areas cannot be explained by exclusionary factors (e.g. poor instruction, social/emotional factors, psychological disturbance, cultural or language differences, environmental deprivation, etc.) although one or more of these factors may contribute to weakened academic performance

Responses to Instruction/Multi-tiered Systems of Supports/ Intervention and Programming

Intellectual Disability	General Learning Difficulty	Specific Learning Disability
Progress Monitoring (or other performance indicators) demonstrates very slow rate of response/learning, will not meet typical grade level benchmarks in any academic area	Progress Monitoring (or other performance indicators) demonstrates slow rate of response/learning, may meet typical grade level benchmarks in some but not all academic areas	Following a comprehensive evaluation and resultant provision of tailored interventions, accommodations, compensatory strategies and/or modifications, Progress Monitoring (or other performance indicators) demonstrates rate of response/learning similar to same grade level peers may approximate or meet typical grade level benchmarks in certain areas
Special Education Services	Tier II and Tier III interventions in General Education, Remedial Programs	Special Education Services, Remediation Programs, General Education Inclusion (Tier II and Tier III Interventions)
Instruction Emphasis: Self-Help Skills, Functional Academics, Social Skills, Self-Esteem	Instructional Emphasis: Basic Academics. Vocational Training, Accommodations, Compensatory Strategies, Social Skills and Self-Esteem	Instructional Emphasis: Grade Level Performance, College Preparation, Accommodations, Compensatory Strategies, Self-Esteem, Self-Advocacy, Assistive Technology

Adapted form Flanagan D.P. Ortiz S.O, & Afonso V.C. (2013) Essentials of Cross-Battery Assessment: 3rd Edition. Hoboken, NJ Wiley & Sons

Appendix VI

Determining Patterns of Strengths and Weaknesses

Appendix VI

Determining Patterns of Strengths and Weaknesses

Guidance on Determining Patterns of Strengths and Weaknesses

This federal requirement is not elaborated upon in the federal regulations. Some guidance is provided from the Learning Disabilities Roundtable (February 2005 page 13)

"This guideline is not meant to encourage use of formulas or a rigid approach to interpreting strengths and weaknesses. Only empirically validated patterns of discrepancy should be considered by teams…it is important to recognize that the new guideline also acknowledges intra-individual differences as a fundamental concept of SLD…"

The only portions of the Maine regulations that provide any guidance for identifying this pattern of strengths and weaknesses are:
- The requirement in VII (2) (L) (2) (a) (ii) that requires "peer reviewed, scientific research documentation, independent of that provided in the test manual, that supports a correlation between the processing problem and the academic deficit".
- The requirement in VII (2) (L) (2) (a) (iii) that provides a means for measuring the student's cognitive ability.

Given the limited guidance available in federal and state regulations, the following is offered as a framework for a clinical response to this requirement in Part 4 b. of the LD document.

Academic Achievement: Typically measured through standardized achievement tests that provide age-based norms as referenced in question 1 of the LD document.

Educational Performance: Performance in academic areas (for example, written literacy skills, math, communication. (MUSERII (3)) as measured through local assessment instruments, rubrics, grade-level standards, etc. as referenced in question 1 of the LD document.

Age: The student's chronological age.

State-Approved Grade Level Standards: As referenced in question 1 of the LD document above, each district should have developed means for measuring student progress relative to state approved grade level standards as part of the ESSA and Maine Learning Results requirement.

Intellectual Development: As determined through standardized intellectual assessments.

Procedure for identifying patterns of strengths and weaknesses in **Educational Performance**:
   a. Gather measures of the student's educational performance in the area(s) of academic **weakness** identified in Question #1 of the LD document (basic reading, reading fluency, etc.) such as:
   - Classroom Work Samples

- Classroom Participation Samples
- Homework Assignments
- Classroom Quizzes and Tests
- Portfolios
- Curriculum Based Assessments
- Classroom based measures of State Approved Grade Level Standards

b. Gather measures of the student's educational performance in at least one area of academic **strength**. Use information similar in format to the material used for identifying the weakness above.

c. Means for identifying a pattern of strengths and weaknesses in Educational Performance **relative to age**:
   1. If the student were performing significantly closer to other students the same age in the area of strength than the area(s) of weakness, then this would constitute a pattern of strength and weakness.
   2. As there are no statistical formulae available for determining significance in this matter, the team will have to use its judgment.

d. Means for identifying a pattern of strengths and weaknesses in Educational Performance **relative to State approved grade level standards**:
   1. If the student were achieving significantly closer to State approved grade level standards in the area of strength than the area(s) of weakness, then this would constitute a pattern of strength and weakness.
   2. As there are no statistical formulae available for determining significance in this matter, the team will have to use its judgment.

e. Means for identifying a pattern of strength and weakness in Educational Performance **relative to intellectual development**.
   1. Measure the student's intellectual development in a manner consistent with requirements of Part #2 of the LD document.
   2. Compare the results of the intellectual assessment with the student's performance in the identified area of weakness.
   3. Since intellectual assessments are scored according to age norms and educational performance is scored according to grade level norms, it is not possible to make a statistical correlation between the two measures. Rather, the Team will need to compare where the student is performing compared to the norm group for each measure.

Example:

A second grade student earns 'Does Not Meet' on measures of State-approved second grade level measures of basic reading and reading fluency. This student earns 'Does Meet' on measures of State-approved second grade level measures of math calculation and math problem solving. This variance in educational performance is consistent with a pattern identified by research for students with a specific learning disability in reading.

Procedure for identifying patterns of strengths and weaknesses in **Academic Achievement**:

a. Review results of achievement measures in the area(s) of academic weakness identified in Question #1 of the LD document (basic reading, reading fluency, etc.).

b. Review results of similar achievement measures in one or more areas of academic strength in a manner consistent with guidance for Question #1 of the LD document

c. Compare the difference between the student's achievement in the area of greatest strength and the area of greatest weakness as identified above. Be

sure to use similar measures (If using age based achievement norms for measuring the strength, then use age based achievement norms for measuring the weakness).

   d. Means for identifying a pattern of strengths and weaknesses in academic achievement **relative to age**:
      1. Compare age based standardized scores in the area of strength and weakness.
      2. To meet this criterion, there should be variance between scores.

   e. Means for identifying a pattern of strengths and weaknesses in academic achievement **relative to State-approved grade level standards**:
      1. Compare the student's performance on grade level assessments in the areas of greatest strength and greatest weakness.
      2. To meet this criterion, there should be variance between scores.

   f. Means for identifying a pattern of strength and weakness in academic achievement **relative to intellectual development**.
      1. There must be scientifically based research correlating the processing disorder(s) identified with the area(s) of academic deficit identified in Q of the Question #1 in the LD Document
      2. Measure the student's intellectual development.
      3. Compare the results of the intellectual assessment with standardized scores on an age normed achievement test measuring the area of academic weakness identified in Question #1 and #4 of the LD document.
      4. To meet this criterion, there should be variance between scores and cognitive processing deficits should match areas of academic weakness while other scores (both cognitive and achievement) should be consistently higher.
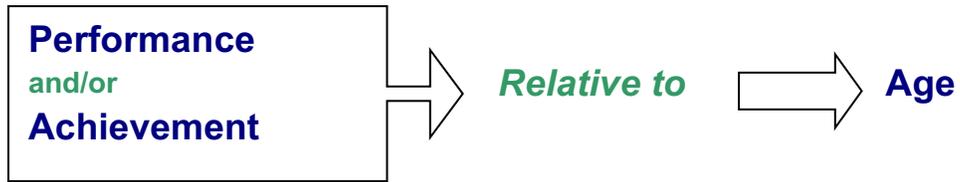
Example:

A seven-year-old student earns the following standard scores:

- 75 on measures of reading skill
- 72 on measures of phonological processing
- 98 on measures of math calculation and problem solving
- 100 on measures of fluid or perceptual reasoning

➤ There is a research-based correlation between the reading deficit and the deficit in phonological processing.
➤ There is a research-based correlation between the student's strong math skills and their strong fluid or perceptual reasoning skills.
➤ There is significant variance between the student's academic achievement in reading and math and between phonological processing and fluid or perceptual reasoning.

The following chart presents the different comparisons districts may use in identifying patterns of strengths and weaknesses:

A.

Performance
and/or
Achievement

Relative to

Age

B.

Performance
and/or
Achievement

Relative to

State Approved Grade Level Standards

C.

Performance
and/or
Achievement

Relative to

Intellectual Development

Appendix VII

Response to Intervention Procedures

Appendix VII

Response to Intervention Procedures

The following are derived from Section III of Maine's Chapter 101 Regulations Section III. General Education Intervention I(pages 13-14).

1. General

...all school administrative units shall...provide each child who is not progressing toward meeting the content standards of the parameters for essential instruction and graduation requirements with different learning experiences or assistance to achieve the standard. The interventions must be specific, timely and based upon ongoing formative assessments that continuously monitor student progress.

2. Procedure

While variations in how school administrative units develop and implement general education interventions are expected, all general education interventions must include:

a.   Documentation that every child, prior to entering the general education intervention process, was provided with appropriate instruction in reading, including the essential components of reading instruction (as defined in section 1208(3) of the Elementary and Secondary Education Act of 1965 (ESEA) (20 U.S.C.A. §6368(3)), appropriate mastery based instruction in math, appropriate instruction in the writing process, and positive behavioral supports

b.   A team-based decision-making process

c.   Screening at reasonable intervals to determine whether all children are progressing toward meeting the content standards of the parameters for essential instruction and graduation requirements

d.   Data Analysis of screening results focusing on determining to what extent all children are progressing toward meeting the content standards of the parameters for essential instruction and graduation requirements and identifying which children are not making adequate progress towards these goals and are in need of targeted general education interventions

e.   A determination as to whether a child's assessed difficulties are likely the result of linguistic or cultural differences

f.   Provision of research-based general education interventions targeted at the child's presenting academic and/or behavioral concerns as determined by screening results
05-071 Chapter 101, MUSER page 14

g.   Repeated formative assessments of student response to targeted interventions, conducted at reasonable intervals that generate rate based measurable data for both specifying academic and behavioral concerns and monitoring child progress during general education interventions

h.   Documentation that parents were notified about the process, given the opportunity to participate in instructional decision-making, and kept informed of their child's progress during targeted general education interventions

i.   A team shall review the child's progress no later than 60 school days after the start of formal general education interventions and approximately every 30 school days thereafter. At each meeting, the team shall review data on the child's progress to determine if modifications to the general education interventions are needed and/or if a referral to special education is indicated

j.   Provisions for targeted general education interventions to continue during any subsequent special education referral

The following guidance on implementation of the General Education Intervention (RTI/MTSS) requirements is offered:

- Documentation should be provided to the I.E.P. Team that demonstrates the student was provided with support through a team based decision-making process. This team can take many forms including an RTI, MTSS, SAT or Title I team or some other problem solving team, as long as the team make-up and process conforms to state requirements. It will be important for the team to include the student's regular education teacher, an administrator and someone with expertise in the RTI/MTSS process including expertise in research based interventions and progress monitoring. The team must also involve parents.
- Documentation should be provided to the I.E.P. Team demonstrating that through the team-based problem solving process the student was provided with research based instruction that targeted their identified academic concern(s). Research based interventions should include specific teaching methodologies that have documented evidence of being successful in improving academic performance for students in the specific academic skill(s) which have been targeted by the screening tools. It will be important to have evidence that these interventions are implemented with fidelity including teaching according to the format of the intervention. Sessions should be at an appropriate level of frequency and duration. Simply stating that the student received a form of intervention, such as Title I Services, is not adequate. Rather, the team should identify the instructional model employed.
- The I.E.P. Team should be provided with documentation of repeated formative assessments of student response to targeted interventions. The formative assessments should provide an effective measure of the specific academic skill(s) being targeted, be sensitive enough to measure small gains and have a means for comparing the student's progress to that of other students. Examples include, but are

not limited to, the AIMSweb and DIBELS measures. Note the requirement for providing parents with information about their child's progress.

- A reasonable interval for progress monitoring assessments is typically about one week (5 school days). Review of progress as noted in (i) above must be by 60 school days (12 weeks) after the initial intervention and every 30 school days (6 weeks) thereafter. It is recommended that the I.E.P. Team is provided with a written record of the problem solving team meetings that shows compliance with this time frame and specifies changes made when adequate progress was not evident.

- If the data indicate resistance to two consecutive data-driven intervention strategies, the pre-referral team should meet to determine further intervention modifications and whether a referral should be made simultaneously to the I.E.P. Team.

- Resistance is indicated when the pre-referral team determines that:
    a. The gap between the child's educational performance and the goal set for his or her grade level has not decreased satisfactorily, or
    b. The interventions are demonstrated to be effective at decreasing the gap but require continued and substantial effort that may include the provision of special education and related services. This would represent a level of effort that exceeds that provided to other students who are receiving instructional intervention at this level of support within the school's multi-tiered support system.

- The I.E.P. Team needs to provide documentation showing that they considered whether the child's assessed difficulties are likely the result of linguistic or cultural differences. This may include documentation of the child's linguistic and cultural background, results of any ELL screening, etc.

- The I.E.P. Team should be provided with documentation of parent notification of the following:
    a. Their child's referral to the problem solving team process.
    b. Their opportunity to participate in the problem solving team process.
    c. Documentation of their child's progress during the problem solving team process.

- The general education interventions should continue while the I.E.P. team is handling the referral. The resulting data should be provided to the I.E.P. team to be considered as part of the identification decision-making process.

Appendix VIII
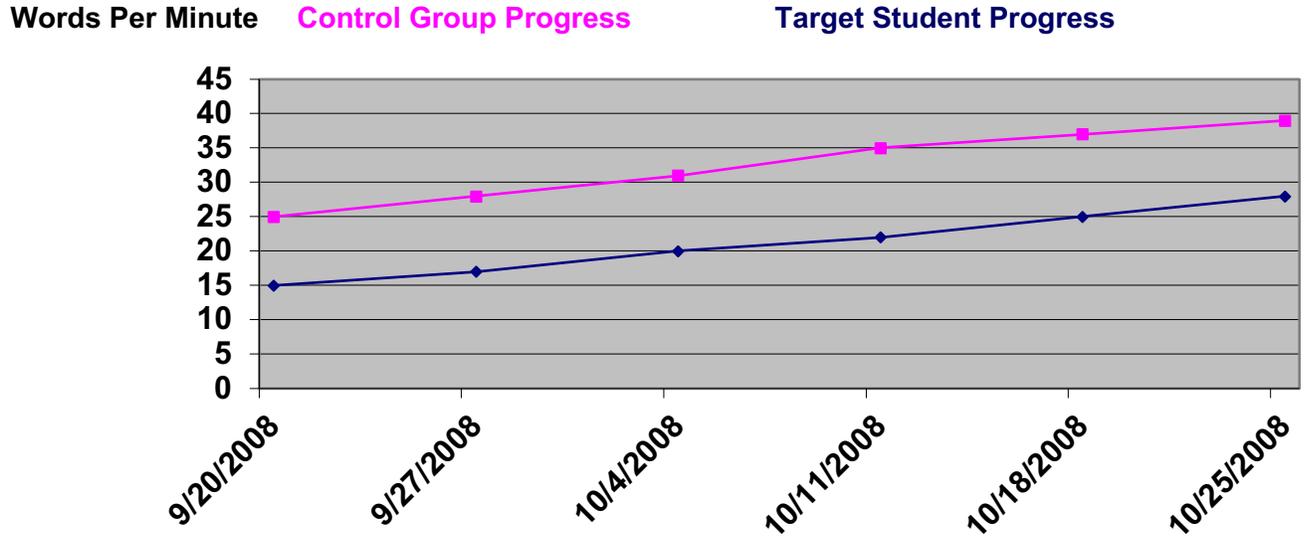
Response to Intervention-- Sufficient Progress

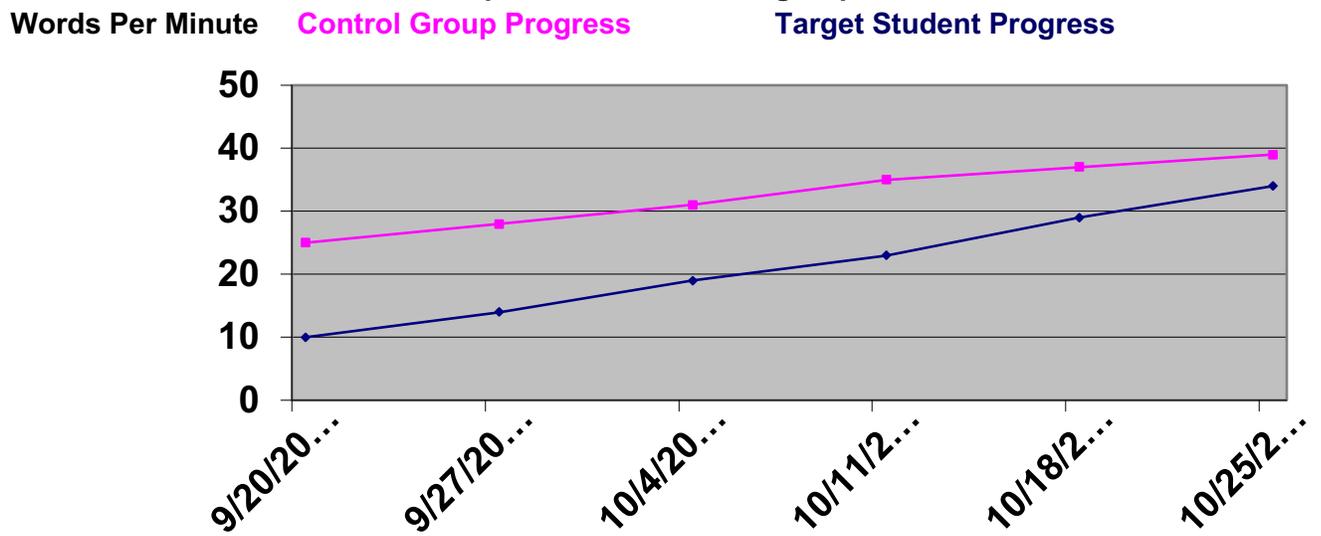# Appendix VIII

Response to Intervention-- Sufficient Progress

Sample Response to Intervention Charts

Oral Word Reading Fluency

Example 1: Student Not Closing Gap

Words Per Minute   Control Group Progress   Target Student Progress

Example 2: Student Closing Gap

Words Per Minute   Control Group Progress   Target Student Progress

Appendix IX
Maine DOE Definitions of Curriculum, Summative, and Performance Based Assessments

Appendix IX
Maine DOE Definitions of Curriculum, Summative, and Performance Based Assessments

For clarity, the following definitions are offered:

Curriculum Based Assessment vs. Curriculum-Based Measurement per Maine DOE Definition
http://www.maine.gov/doe/rti/maine-readiness-checklist.pdf

Curriculum-Based Assessment (CBA) CBA is a broader term than Curriculum-Based Measurement (CBM), as defined by Tucker (1987). CBM meets the three CBA requirements: (1) measurement materials are aligned with the school's curriculum; (2) measurement occurs frequently; and (3) assessment information is used to formulate instructional decisions. Tucker, J. (1987). Curriculum-based assessment is not a fad. The Collaborative Educator, 1, 4, 10.

Curriculum-Based Measurement (CBM) CBM is an approach to measurement that is used to screen students or to monitor student progress in mathematics, reading, writing, and spelling. With CBM, teachers and schools can assess individual responsiveness to instruction. When a student proves unresponsive to the instructional program, CBM signals the teacher/school to revise that program. CBM is a distinctive form of CBA because of two additional properties: (1) Each CBM test is an alternate form of equivalent difficulty; and (2) CBM is standardized, with its reliability and validity well documented.

Summative vs. Formative Assessment per Maine DOE definition
http://www.maine.gov/doe/rti/maine-readiness-checklist.pdf

Formative Assessment Formative assessment is a form of evaluation used to plan instruction in a recursive way. With formative assessment, student progress is systematically assessed to provide continuous feedback to both the student and the teacher concerning learning successes and failures. With formative assessment, teachers diagnose skill, ability, and knowledge gaps, measure progress, and evaluate instruction. Formative assessments are not necessarily used for grading purposes. Examples include (but are not limited to): CBM, CBA, pre/post tests, portfolios, benchmark assessments, quizzes, teacher observations, and teacher/student conferencing.

Summative Assessment Summative assessment is a form of evaluation used to describe the effectiveness of an instruction program or intervention, that is, whether the intervention had the desired effect. With summative assessment, student learning is typically assessed at the end of a course of study or annually (at the end of a grade).

Appendix X
Example of Grading Practices for Standards/Performance Indicators

Appendix X
Example of Grading Practices for Standards/Performance Indicators

The following is an example of a Windham Primary School standards-based learning report grading protocol for teacher who use the Likert scale of 4 (exceeds), 3 (meets), 2 (partially meets), and 1 (does not meet).

When determining standards-based grades, teachers score students at the grade level targets, which they are receiving instruction at for learning. When determining how to score a skill on a four-point scale, teachers should use credible evidence to determine the score. Refer to grade-level scoring guides to guide you on how each specific skill is graded. Each individual student is graded on the skills that he/she has been taught. Take into account:

    a. Classroom assessments: DRA2, Teachers' College Word List, Running Records, Reading Street Assessments, Everyday Math assessments, grade level common assessments, etc.
    b. Teacher observations
    c. In-Class work

Definitions of Academic Scale
4 = Exceeds
The student has met the criteria for a 3, as well as has a *deeper understanding and can apply and/or explain* the target. Typically, this would be a target that is conceptual and not skill-based. This does *not* mean they are performing at the next grade level. In this case, pull in the next grade level standard.
- For example, a student who reads sight words beyond grade level expectation would **not** receive a 3 or 4 at the grade level target. Instead, he would be graded at the next grade level sight word target.
- For example, a student has demonstrated proficiency on a target and demonstrated further knowledge/understanding by applying this skill in another way.

3 = Meets
The student consistently demonstrates proficiency on standard/target.
- In Kindergarten, a student may be pre-assessed and demonstrate proficiency and this should be reported.
- When a skill-based target has a number associated with it (such as letter sounds, letter identification, or sight word recognition) and if a student is "close" (such as making a mistake or the mistake is a common/developmental mistake) then it's a 3 with a comment. For example, student recognizes all lowercase letters except b, p and q, you would grade as a 3.

2 = Partially Meets
The student is making progress towards proficiency on standard/target. *There is a level of teacher discretion to determine when a student has received enough instruction to have become proficient or not and then receive a 2.* Some examples of when a student can receive a 2:
- Pre-assessed and the target is something that has been previously taught, possibly at an earlier grade to the student and the student demonstrates limited understanding or inconsistent performance.
- Student is actively working on learning the target/standard.

- A student shows some gaps within the target.
- Student is making steady and consistent progress towards meeting the target.
- Student is inconsistently meets target. For example, with sight words, they can identify 10, but the next time knows a different 5 than before.

1 = Does Not Meet

The student does not demonstrate proficiency on standard/target. Some examples of when a student can receive a 1:

- Student has been taught or provided repeated intervention and are working on standard with no or limited progress
- If the target is skill-based, instead of giving a 1 – grade the standard you are working on for the grade level. For example, a grade 1 student is rote counting to 24. Grade student a 3 on the kindergarten target instead of a 1 on the first grade target.

Appendix XI
**Models of Psychological Processes Correlated with Specific Academic Skills**

Appendix XI

Models of Psychological Processing and Correlation with Specific Academic Skills

INTEGRATED SNP/CHC Conceptual Model
Cattell-Horn-Carroll Theoretical Model

Just as there are a number of different models for organizing and naming different parts of the brain, so there are a number of different models for organizing and identifying the many different psychological processes that can be evaluated through psychological testing. Two of the most prominent and complete models used in recent years are the School Neuropsychology Model and the CHC Model. It is important for the practitioner to learn and incorporate a theoretical model of assessment into their practice and this model will drive and provide interpretation for the process of evaluation. The two models presented here are based in brain research and have been thoroughly studied. Each comes with rigorous and robust information to support the practice in daily work. The research backing is presented here for the reader's information only and is not intended to be adequate training for practice. **It is important to remember that each of these models is an individual and theoretical model that drives the process of evaluation.**

Figure 1: Integrated SNP/CHC Model
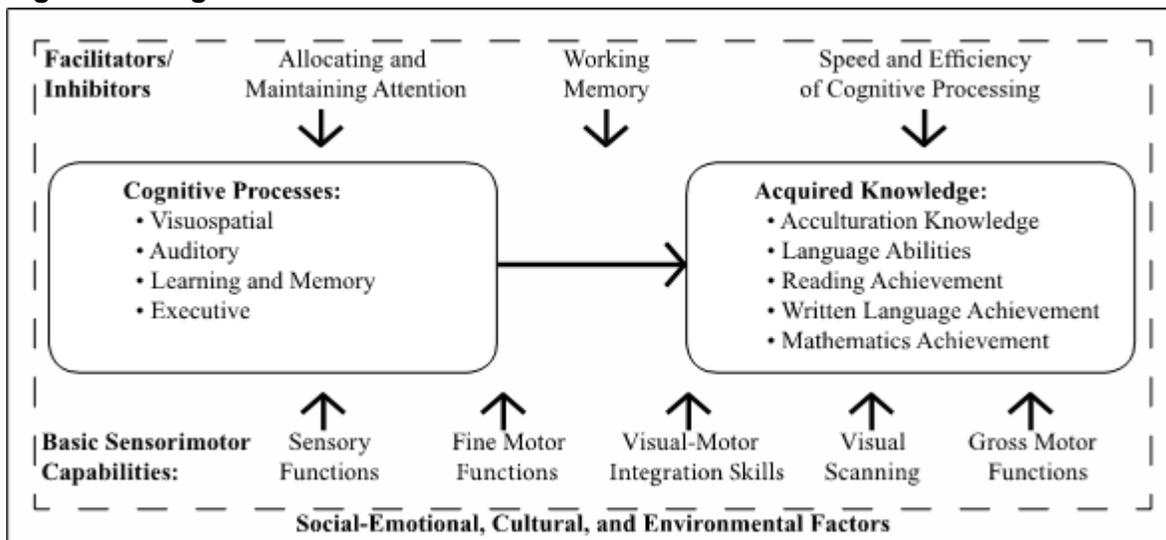
Reprinted by permission of Daniel Miller (Essentials of School Neuropsychological Assessment-2nd Edition, 2013, John Wiley and Sons Inc., New Jersey)

INTEGRATED SNP/CHC Conceptual Model

I. Facilitators/Inhibitors:
        Allocating & Maintaining Attention
        Working Memory
        Speed & Efficiency of Cognitive Processing

II. Cognitive Processes
        Visuospatial
        Auditory/Phonological
        Learning and Memory
        Executive

III. Acquired Knowledge
        Acculturation Knowledge
        Language Abilities
        Reading Achievement
        Written Language Achievement
        Mathematics Achievement

IV. Basic Sensorimotor Capabilities
        Sensory Functions
        Fine Motor Functions
        Visual-Motor Integration Skills
        Visual Scanning
        Gross Motor Functions

In 2013, Daniel Miller, PhD combined concepts from CHC theory with School Neuropsychology theory and offered the Integrated SNP/CHC Model (Miller 2013). Outlined above, this model provides an example of the types of processes that may be assessed in making a determination of whether or not the student has a disorder in one or more of the basic psychological processes. This is by no means a complete list, as not all models or all processes are listed. Rather, the lists are presented as examples only. The broad areas of processing listed above also encompass narrower abilities that are described in more detail in Dr. Miller's book and on the School Neuropsychology website (schoolneuropsych.com). For example, Language Abilities encompass both receptive and expressive language. Many students may exhibit a disorder in one of the narrow abilities, but not in the broad ability.

Most of the areas of processing listed in the Integrated SNP/CHC model could be considered as possible processing disorders for the purpose of SLD identification. The exceptions would some of the areas listed under the heading of "Acquired Knowledge" as these are measures of achievement, not psychological processes. Within this heading, only the "Language Abilities" would be considered psychological processes for the purpose of SLD identification.

The reader is referred to Dr. Miller's 2013 book on the **Essentials of School Neuropsychological Assessment-Second Edition** (Hoboken, N.J: John Wiley & Sons)for more detail on using the integrated SNP/CHC model for assessing psychological processes for the purpose of SLD identification.

Cattell-Horn-Carroll Theoretical Model

FLUID INTELLIGENCE *(Gf)*
> Induction
> Sequential Reasoning

CRYSTALLIZED INTELLIGENCE *(Gc)*
> Language Development
> Lexical Knowledge
> Listening Ability
> General Information

VISUAL PROCESSING *(Gv)*
> Spatial Relations
> Flexibility of Closure
> Orthographic Processing

SHORT TERM WORKING MEMORY *(Gwm)*
> Memory Span
> Working Memory

LONG TERM RETRIEVAL *(Glr)*
> Associative Memory
> Naming Facility

AUDITORY PROCESSING *(Ga)*
> Phonetic Coding (Analysis)
> Phonetic Coding (Synthesis)

PROCESSING SPEED *(Gs)*
> Perceptual Speed

This model is based on the work of Dawn Flanagan and colleagues and is based on Cattell-Horn-Carroll theory of intelligence. Similar to the SNP-CHC Integrated model, areas of psychological processing are defined as consisting of Narrow areas of cognitive ability subsumed into BROAD areas of processing and these broad areas of cognitive processing have been empirically linked to specific areas of academic development.

Outlined above, this model provides an example of the types of processes that may be assessed in making a determination of whether or not the student has a disorder in one or more

of the basic psychological processes. This is by no means a complete list, as not all models or all processes are listed. Rather, the lists are presented as examples only.

For more information, the reader is referred to **Essentials of Cross-Battery Assessment-Second Edition** (Hoboken, N.J: John Wiley & Sons) for more detail on using CHC theory and the Cross Battery model for assessing psychological processes for the purpose of SLD identification.

School Neuropsychology Conceptual Model
CHC - Cross Battery Model

General explanation: As noted above, there are a number of different models for organizing and identifying the many different psychological processes that can be evaluated through psychological testing. Test developers have utilized these varying models in formulating specific tests and in identifying which processes each test measures. Researchers, in turn, have used these different tests in identifying psychological processes correlated with specific academic skills.

Another factor influencing the task of identifying which psychological processes are correlated with given academic skills is the fact that multiple processes are orchestrated in performing an academic task. Individual students may use one process to a greater degree than another, based on their individual pattern of cognitive strengths and weaknesses. For instance, there are multiple decoding strategies that readers may use. One student may rely heavily on phonological processing skills. However, a student with poorly developed phonological processing skills may rely more heavily on alternate strategies such as language based reasoning and language structure. Thus, not all students use the same psychological processes to the same degree as other students.

These multiple factors have prevented researchers from developing a single, universally accepted list of specific psychological processes correlated with each academic skill for all students. That being said, there is a high level of consensus in the research of general processing areas that contribute to the mastery of specific academic skills. The manner in which these processes are organized, labeled and the degree to which they contribute to a specific skill varies across the professional literature.

Two charts are provided with examples of processes that research has correlated with specific academic skills. The first chart displays the school neuropsychology model (developed in consultation with Steven Feiffer). The second chart displays cross battery analysis (Dawn Flanagan and associates) using the CHC model. It is important for the reader to recognize that these are not the only models available and that even within these models, there are differences between individual children and between conceptualizations of professionals in the field.

In the context of the LD document, any single psychological process that varies 1.5 SD from the mean (of the test, not the student) or any two processes that vary 1 SD from the mean should be considered as cognitive processing deficits. Best practice suggests that multiple measures

of a specific process should be administered and that the composite, cluster or index score should be utilized in calculating the standard deviation score (See details in Appendix II). When deficits are less severe, it could be expected that remediation would be accomplished more quickly than if deficits are more severe. It is also important to remember that inconsistencies within composite areas must be resolved through further testing using subtests/tests that measure similar constructs (i.e. fluid reasoning, comprehension/knowledge, auditory processing, etc.) For a composite to be considered in the context of the LD document, it is recommended that at least 2 scores are included with no significant variance. If variance is evident, additional testing should be attempted to resolve the variance.

SCHOOL NEUROPSYCHOLOGY MODEL: PROCESSES CORRELATED WITH SPECIFIC ACADEMIC SKILLS

	Fine-Motor/Sensory-Motor Integration	Attentional Processes	Visual-Spatial/Orthographic Processing	Processing	Receptive Language	Language/Retrieval Fluency	Language Based Knowledge/Reasoning	Structure/Syntax/Grammar	Verbal Memory	Visual Memory	Working Memory	Executive Functions	Cognitive Speed & Efficiency
1. Basic Reading Skill													
A. Pseudoword Decoding		x	X	X		x			x		x		
B. Sight Word Reading		x	X			x				x			x
2. Reading Fluency Skills		x	X	X		x		x	x	x	x	x	x
3. Reading Comprehension		x			x	x	x	x	x		x	x	x
4. Mathematics Calculation	x	x	X						x	x	x	x	x
5. Mathematics Problem Solving	x	x	X				x		x	x	x	x	x
6. Written Expression													
A. Handwriting	x	x	X							x	x	x	x
B. Spelling		x	X	X		x			x	x	x	x	
C. Editing		x	X			x	x	x	x	x	x	x	
D. Composition		x	X		x	x	x	x	x		x	x	x
7. Oral Expression		x		X		x	x	x	x		x	x	x
8. Listening Comprehension		x		X	x		x	x	x		x	x	x

Cross Battery Model:
Cognitive Processes Correlated with Specific Academic Skills

	Basic Reading Skills	Reading Comprehension	Reading Fluency Skills	Mathematics Calculation	Mathematics Problem Solving	Written Expression
Induction	M	M	M	**S**	**S**	M
Sequential Reasoning	M	M	M	**S**	**S**	M
Language Development	**S**	**S**	**S**	**S**	**S**	**S**
Lexical Knowledge	**S**	**S**	**S**	**S**	**S**	**S**
Listening Ability	**S**	**S**	**S**	**S**	**S**	
General Information						**S**
Spatial Relations				M	M	
Orthographic Processing	M	M	M			M
Memory Span	M	M	M	M	M	S
Working Memory	**S**	**S**	**S**	**S**	**S**	**S**
Naming Facility	**S**	**S**	**S**			M
Phonetic Coding	**S**	**S**	**S**			S
Perceptual Speed	**S**	**S**	**S**	**S**	**S**	**S**

M= moderate correlation

S= strong correlation

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