San Mateo County SELPA

Procedures for Determining Specific Learning Disability Eligibility Utilizing a Pattern of Strengths and Weaknesses Model

Participating LEAs: Bayshore Elementary School District, Belmont-Redwood Shores School District, Brisbane School District, Burlingame School District, Cabrillo Unified School District, Connect Community Charter, Design Tech High School, Everest Charter High School, Hillsborough City School District, Jefferson Elementary School District, Jefferson Union High School District, KIPP Esperanza, KIPP Excelencia, KIPP Valiant Community Charter, La Honda-Pescadero Unified School District, Las Lomitas Elementary School District, Menlo Park City School District, Millbrae Elementary School District, Oxford Day Academy, Pacifica School District, Portola Valley Elementary School District, Ravenswood City School District, Redwood City Elementary School District, San Bruno Park School District, San Carlos Charter Learning, San Carlos School District, San Mateo County Office of Education, San Mateo-Foster City School District, San Mateo Union High School District, Sequoia Union High School District, South San Francisco Unified School District, Summit Preparatory Charter High School, Woodside Elementary School District

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Acknowledgments

These guidelines are based on a similar one adopted for use in Ventura County SELPA and was edited to align with San Mateo County SELPA procedures. We wish to thank the Ventura SELPA for the tremendous amount of work, research, and development that went into composing the original procedures. We would like to thank Ventura County for allowing San Mateo County SELPA to use their guidelines as a foundation for our work. We also wish to extend a special thank you to the following individuals for their role in the development of the San Mateo County PSW Assessment Model and Procedural Manual for SLD identification:

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Section 1

Introduction

Use of a *Pattern of Strengths and Weakness (PSW)* Process to Determine *Specific Learning Disability (SLD) Eligibility*

Background

The 2004 reauthorization of the Individuals with Disabilities Education Act (IDEA) prohibited states from mandating that School Districts / Local Education Agencies (LEA) to use the *ability-achievement discrepancy model* to determine eligibility for students under the category of *specific learning disability (SLD)* and authorized the use of alternative methodology. The use of the *Pattern of Strengths and Weaknesses* (PSW) Model for SLD identification is indicated in the revised Title V Regulations of the California Education Code. The San Mateo County *Special Education Local Planning Area (SELPA), in collaboration with Consultant, Dr. Jarice Butterfield,* convened a workgroup of highly knowledgeable and skilled professionals to research evidence-based, best practices in order to inform this San Mateo County SELPA policy manual.

Purpose of Manual

The purpose of this manual is to provide recommended procedural guidelines for San Mateo County SELPA member districts/ LEAs' school psychologists/assessment teams in order to assist them in in determining eligibility of students for special education under the category of *specific learning disability (SLD)* using a cross-battery *pattern of strengths and weaknesses (PSW)* model suspected of having a SLD. It is the intent of this manual to provide assessment guidelines to ensure consistency, while still allowing for the use of informed professional judgment by trained assessment teams.

The use of a PSW model to determine eligibility under SLD has received support from the California Association of School Psychologists (CASP, 2014), and various other scholars and researchers in the fields of education, psychology and law (LDA, 2010), to include Dr. Samuel Ortiz. This manual is informed by current research, information from member districts/LEAs that have piloted a PSW model, as well as data from recent file reviews conducted for member district LEAs.

Section 2

Differentiating a Specific Learning Disability (SLD) From Other Disabilities

Definition of a Specific Learning Disability

In order to better understand the definition of SLD in an educational context, it is important to consider the difference between a student who possesses a *specific processing deficit* that relates to a specific academic weakness and a student who possesses a *global learning deficit* that manifests itself in weaknesses across all or most processing and academic areas (Hanson, Sharman, & Esparza-Brown, 2009). G*lobal* processing deficits or *general* learning difficulties (characterized by low or below average cognitive skills with minimal or no cognitive processing areas in the average range) are typically accompanied by general academic underachievement; however, they are fundamentally different from the true conceptualization of a *specific* learning disability. Students who are eligible for special education under the category of SLD typically require individualized services, not simply more intensive services (LDA, 2010). They must also possess the cognitive skills required to learn compensatory strategies and apply them independently (Flanagan, Ortiz, & Alfonso, 2013).

Refer to the *What a Specific Learning Disability (SLD) is vs. What SLD is Not* on the following page.

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

Instructions 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.

Intellectual Disability (ID)	***General Learning Difficulty (GLD)***	***Specific Learning Disability (SLD)***
Little variation 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 abilities 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 abilities	Intact functioning in many processes and abilities and *possible normative* cognitive or academic strengths
Deficits (≤70 standard score) in adaptive behavior, little variation in performance across adaptive behavior domains	May have one or more deficits in adaptive behavior (but not in all domains)	Minimal to no deficits in adaptive behavior, any deficits in adaptive behavior are likely explained by other factors.

Intellectual Disability (ID)	***General Learning Difficulty***	***Specific Learning Disability (SLD)***
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 abilities 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.

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

Intellectual Disability (ID)	***General Learning Difficulty***	***Specific Learning Disability (SLD)***
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 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; Remedial Programs; General Education Inclusion (Tier II and Tier III Interventions)
Instructional 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

What a Specific Learning Disability (SLD) is vs. What SLD is Not

SLD is…	SLD is not...
• characterized by an Otherwise Normal Cognitive Ability Profile (ONCAP), indicating that the student has areas of strengths at or above the average range along with a specific area or areas of processing weakness.	• characterized by generally low or below average cognitive abilities with little or no areas of strength.
• characterized by processing weakness(es) that are linked by research to specific academic weakness(es).	• characterized by processing weakness(es) that are not linked with academic weakness(es).
• explained by a neurologically-based processing deficit or deficits.	• explained primarily by low or below average cognitive abilities, another disability category or an exclusionary factor.
• characterized as a "within learner" trait.	• explained by external factors such as instructional or environmental variables.
• sometimes in existence with other disability conditions (sensory, language, behavioral).	• primarily explained by another disability and/or condition (Emotional Disturbance, Intellectual Disability, etc.).
• an educational disability.	• solely a medical or mental health diagnosis.
• a disability category under the California Ed. Code and the Federal Regulations of IDEA.	• a disability category based on criteria solely from the Diagnostic and Statistical Manual (DSM) or an outside agency's professional opinion.
• a wide range of learning difficulties in relation to academic skills.	• an automatic entitlement for students with any academic difficulties.
• an impairment requiring a comprehensive and individual evaluation by an Individualized Education Plan team to ensure all SLD Federal, State, and District criteria are met.	• an automatic default category when a student demonstrates lack of progress in the general education setting.
• an educational classification in which a student meets the criteria for SLD, so much so that he/she cannot profit in the general education curriculum without special education support.	• applied when a student exhibits a pattern of strengths and weaknesses but does not require special education support to benefit from general education curriculum.

From Ventura County SELPA Procedures for Determining Specific Learning Disability Eligibility Utilizing a PSW Model

Section 3

Research to Support a Cross-Battery PSW Eligibility Model for Determining SLD Eligibility

Development of a Cross-Battery PSW Model in San Mateo SELPA

The San Mateo County SELPA convened a workgroup led by Jarice Butterfield, Ph. D., consulted with SLD / PSW experts in the field to include Dr. Samuel Ortiz, as well as invested considerable resources to thoroughly study best practices for identifying a *specific learning disability(SLD)* in students and the efficacy of using a Cross-Battery Pattern of Strengths and Weaknesses (PSW) Model. The SELPA believes that the transition of member districts to use of a consistent cross-battery PSW model for determining student eligibility under the category of *specific learning* will result in more accurate, valid assessments of students who are suspected of having a Specific Learning Disability (SLD).

The recommended San Mateo County SELPA PSW Model is based on several core research-based principles relating to the definition and assessment of specific learning disabilities:

1. Specific Learning Disabilities are characterized by neurologically-based deficits in cognitive processing (NASP, 2007). This conclusion is supported by a meta-analysis that found significant processing differences between students with SLD and students without SLD (Johnson, Humphrey, Mellard, Woods, & Swanson, 2010).

2. Research has demonstrated the existence of specific cognitive processes (Flanagan et al., 2013; Hale & Fiorello, 2004; Dehn 2014a). Researchers agree that sound tools and measures exist to assess these cognitive processing areas (LDA, 2010).

3. Research has also found links between various cognitive processes and specific areas of academic achievement.

(see the *Compares Chart* in Appendix A-2 Reference Documents)

While the use of the Ability-Achievement Discrepancy Model has been used by public school districts in California for decades to identify students as having a *specific learning disability (SLD)*, experts in the field have pointed to a variety of concerns regarding the use of this method to identify SLD (LDA, 2010). It has been nicknamed the "Wait to Fail Model," as it is often difficult to find a large enough discrepancy between a student's ability and achievement at a young age, thus delaying the provision of special education to students that require specialized academic instruction (SAI). In using this model, determining which ability or I. Q. scores to utilize for comparison with academic scores, especially when a Full Scale I.Q. score is significantly impacted by a child's low processing deficit(s), is confusing for school psychologists. Many researchers feel that this model has led to over-identification (and possible under-identification) of students as having a SLD. Lastly, there is concern that it is not developmentally sensitive, and it is not used consistently among

practitioners (LDA, 2010).

It is the belief of San Mateo County SELPA that relying solely on data regarding a student's *Response to Intervention* (RtI²) for identifying a SLD does not provide enough evidence to support the presence of a SLD (LDA, 2010). Low achievement or a slower than expected response to intervention over time alone, is not a reliable indicator of SLD (Fiorello et al., 2006; 2008; 2009).The literature indicates that not every student who fails to respond to quality instruction and intensive intervention possesses a neurologically- based processing deficit(s). Further, studies have not been successful in reliably identifying which students are considered non-responders (LDA, 2010). Using *Response to Intervention* data as the sole indicator for determining eligibility under SLD also has the potential to increase the over-representation of minority students in special education (CASP, 2014). However, San Mateo County SELPA does support the use of tiered intervention as part of the pre-referral process to rule out that the student's needs cannot be met through general education.

(**see Appendix B – 3 Worksheet/Forms Tiered Intervention Pre-Referral Checklist).**

The comprehensive evaluation required within the PSW model provides information about a learner's individual cognitive processes that is only pursued when considering a student's lack of response to appropriate or targeted interventions; thus the PSW Model answers the essential question of *why* the student is not responding. It also serves to better assist teams in ruling out additional causes for underachievement, including exclusionary factors and cognitive characteristics that do not support the conceptualization of SLD (e.g. all weaknesses and no strengths). The PSW model of SLD assessment may also further assist teams in explaining what areas need to be remediated, as well as what areas require accommodations (Hanson et al., 2009).

The San Mateo County SELPA believes that the PSW model is a valid method for assessing students with suspected learning disabilities if utilized appropriately. Due to its strong emphasis on research-based principles, it has been suggested this model may provide more legally defensible information in litigious cases (Feifer & Della Toffalo, 2007).

Additionally, since a PSW assessment answers the question of *why* a student is struggling academically, educators can more accurately target interventions to meet a learner's specific needs, regardless of whether the student meets eligibility requirements for Special Education (Mascolo, Alfonso & Flanagan, 2014). Although further research is needed for establishing relationships between cognitive domains and achievement (LDA, 2010), current evidence is stronger for some psychological processes and interventions (e.g. reading) than others (e.g. writing and math). There are various studies that have linked PSW evaluation with features of curricula, teaching methods and classroom environments (Feifer, 2008; Keene & Zimmerman, 1997; Beringer et al., 2007; 2008; Swanson & Saez, 2003; Fletcher et al., 2003; Mascolo et al., 2014).

While the San Mateo County SELPA PSW Model does not mandate that individual schools utilize a Response to Instruction and Intervention model (RtI²) as a pre-referral requirement, there are certain basic elements that should be considered prior to developing an assessment plan for an *specific learning disability (SLD)* evaluation (see MTSS/ RtI²/Pre-referral guidelines section). It should be noted that the PSW model works best when it is used in conjunction with an instruction and intervention model that includes Multi-Tiered Systems of Support (MTSS) along with effective screening and progress monitoring procedures. Member Districts in San Mateo SELPA are highly encouraged to implement, evidence-based, intensive pre-referral intervention over time prior to making referrals of students to determine special education eligibility as having a SLD. Some practitioners have reported that up to one-third fewer students are being identified as having an SLD when using a combined RtI/PSW model, as they are more accurately able to identify other disabilities (e.g. OHI, ED) or exclusionary factors (e.g. environmental, instructional, attendance, language considerations) as the primary cause for a student's underachievement (Hanson et al., 2009). In addition, students that may manifest mild SLD are able to have their needs met through general education and may not need a referral to special education. Based on the above information, the San Mateo County SELPA endorses PSW as an assessment model for the identification of students with a *specific learning disability (SLD).*

See chart comparison of the California *Discrepancy Model* to the recommended San Mateo County SELPA *Cross-Battery PSW* model for determining student SLD eligibility on the following page.

Comparison of the California Discrepancy Model and San Mateo County SELPA PSW Model for SLD Identification

	Traditional California Discrepancy Model	San Mateo County SELPA PSW Model
Theoretical Basis	Very little if none.	Based on cognitive neuroscience that has shown links between cognitive processing skills and academic achievement areas (Flanagan et al., 2013; Hale & Fiorello, 2004; Dehn, 2014a).
Research-based Assessment Approaches Required within Model	None identified.	In San Mateo County SELPA program specialists chose to adopt Cross-Battery Assessment utilizing either Flanagan et. al's XBA or Dehn's Processing Strengths and Weaknesses assessment models. Both models are based upon research that supports use of PSW to inform eligibility decisions (Flanagan et al, 2013; Dehn, 2014a).
Use of Full Scale IQ Score	Required in all cases, with the exception of African American students (Larry P. decision). When the full-scale IQ score is not considered valid, there are a variety of approaches to determine the score to use for eligibility purposes.	The use of the full-scale IQ score is not required. The SMC SELPA PSW recommended model acknowledges that the full-scale IQ score is impacted by the student's processing weakness (LDA, 2010). However, assessment teams must determine that the student has an otherwise normal cognitive ability profile, utilizing the research behind the two adopted assessment approaches.
Processing Deficit	In California, a processing deficit is required to determine eligibility. California Ed Code refers to processing deficits that have no clearly defined definitions. It is difficult to locate research that supports the use of some the specified processing deficits as they are	In San Mateo County, the PSW model strongly encourages that the assessment team finds a research- based link between the processing weakness and the academic deficit. To assist teams with this research-based link, the Comprehensive Organizational Matrix of

	specific to California. According to California Ed Code, the discrepancy model requires: severe discrepancy between achievement and overall ability; as well as a processing deficit. California Education Code does not specifically state that the processing deficit must be related to or linked to the academic achievement deficit.	Processing- Achievement Relations, Evaluating Significance (COMPARES) developed by Ventura County SELPA is available within the San Mateo County SELPA PSW Model for SLD Identification Procedural Manual.
Academic Achievement Weakness	Academic achievement is assessed through the use of standardized testing. One test score should not be used in determining eligibility. California Ed Code does not specifically state that ecological validity be used in the eligibility decision-making process.	Academic achievement is assessed through the use of standardized testing; however, the San Mateo County PSW Model requires ecological and informal assessment to validate findings. Therefore, the academic weakness must be substantiated by both other academic data (grades, work samples, etc.) and observation by a team member.

Section 4

San Mateo County SELPA
Pre-referral
Tiered Support
Recommendations

Regulatory Requirements Related to Pre-Referral General Education

According to the Federal definition of Specific Learning Disabilities, educators must ensure that underachievement in a student suspected of having a Specific Learning Disability is not due to lack of appropriate instruction in reading or math. Prior to the Student Study Team/Student Success Team (multi-disciplinary team that meets to make referral decisions making the decision to refer a student for assessment suspected as having a specific learning disability (SLD), the following should take place:

- Appropriate differentiated instruction in general education settings using state-adopted standards in reading, writing, mathematics and English Language Development (for multi-lingual English learners), delivered by qualified, appropriately trained personnel has taken place.

- Tiered intensive intervention targeted to meet the student's area of academic instructional need was provided.

- Progress monitoring in response to instruction and intervention within the general education setting occurred.

Evidence Supporting Implementation of Pre-Referral Tiered Intervention

Per the California Department of Education *Dyslexia Guidelines (2017),* students with mild reading disabilities/dyslexia can and should have their academic weakness remediated through general education intensive intervention in order to rule out whether or not a referral to special education should be made.

San Mateo SELPA recommends that member districts engage in the following "best practice" levels of tiered intervention prior to making referrals to special education for students suspected of having a specific learning disability (SLD) in order to support the SELPA's *Pattern of Strengths and Weaknesses (PSW)* Model for determining SLD Eligibility.

It has been reported in the literature that in schools where robust evidence-based, tiered interventions are being implemented, parents/guardians and teachers alike do not feel the need to prematurely refer students for a special education referral as the student is making progress and having their needs met (Vaughn, et. al.,2010; Mainstay Care and Consultation, 2019).

As a reminder, this does not infer that districts must deny a written request for a special education assessment (parent/guardian's, staff member, etc.), solely due to a student not having received prior tiered intervention.

San Mateo County SELPA's Recommended Pre-Referral Tiered Intervention Components

1) Universal or targeted Screening of students manifesting academic difficulties
2) Collaborative Decision Making Student Study Team/Student Success Team (SST) or team of professionals that review student data to determine which students need tiered support and level, review progress over time, and make decisions regarding referrals to special education
3) Implementation of tiered intervention (to include an *intensive level*)
4) Progress monitoring over time delineating how the student responded to the intervention(s)

Universal Screening Recommendations

Research by Fuchs and Fuchs (2005) defines universal screening as an assessment to be used with all students. Although districts may lack fiscal resources to engage in academic screening of all students, Targeted screening is a way to assess and determine which students manifest academic problems early on. Data sources such as teacher observation, running records, benchmark tracking, and California Standards Tests can guide which students require further, more targeted academic screening. Typically it is best to use a criterion referenced screening tool or tools that provide an indicator where the students are performing relative to their age or grade level in areas of academic performance.

Screening of Multi-lingual English Learners

The same tools can be utilized for English only and multi-lingual English learners (ELs), if the EL student demonstrates little or commensurate academic mastery in their native language. If the EL student has received or is receiving academic instruction in their native language, it is appropriate to screen the student in both English and their native language when feasible. For Spanish, there are many oral language, reading and writing screening tools available. The assessment results for English learners should be interpreted separately from the English only students, as students that are in the process of acquiring a second language will score considerably lower than their English only peers and it is not necessarily an indication of a disability. It is also important to note that careful error analysis of should take place for the ELs when engaging in screening to determine if their errors are more aligned to second language acquisition or if they follow the typical pattern of a learning disability.

(see Appendix A-3 Reference Documents *Comparison Language Differences Versus Learning Disabilities* chart in the appendices).

Once academic screening has been completed, assessors should carefully review the assessment data to determine which students would be appropriate for tiered intervention above and beyond what can be provided via the general education teacher.

Once the students in need are identified, it is recommended that further informal, diagnostic assessments be administered to help guide the type of intervention to be provided.

Collaborative Process for Decision Making

Student Study Team/Student Success Team (SST) or Professional Learning Community (PLC) Recommended Process

The San Mateo County tiered intervention framework supports a collaborative process whereby educators meet to discuss student data and the integrity and fidelity of research-based instructional strategies. It is recommended that teachers bring the names of students who are performing below grade level standards to the Professional Learning Community (PLC) or the Student Study Team (SST) after they have engaged in various classroom interventions or strategies (individual districts may label this collaborative team differently). The teacher summarizes the area(s) of academic and/or behavioral concern, strategies attempted (with documentation of length of time provided and progress monitoring data), student strengths and assets, and other information. The team then decides either to make additional recommendations for Tier 1 strategies or to develop a plan for higher level, tiered interventions.

It is recommended that SST or PLC teams be made up of general education teachers from each grade level or representatives from primary, upper elementary, middle school, or high school departments (this varies depending on the age/grade and profile of the student).
The SST may also include the site administrator, school psychologist, and mild/moderate education specialist, occupational therapists, speech-language pathologists, school nurses, etc.

If a student is being considered for referral for special education assessment, it is strongly recommended that the SST be expanded to include a special education team member (school psychologist preferred).

In San Mateo SELPA, each member district shall decide the role and composition of each team and who will make decisions regarding delivery of tiered interventions.

Tiered Support

Research indicates that less than 20% of the students will be performing at “Standard Near Met” or “Standard Not Met” (or an equivalent level of proficiency) or achieving a score below the 16th percentile. Further, the State of California Dyslexia Guidelines manual indicates that 20% of students in a given class will manifest some level of dyslexia or reading difficulties (be it mild, moderate or severe). Research in the State of CA *Dyslexia Guidelines* (2017) manual indicates that with appropriate intensive, pre-referral intervention, many students with mild to moderate dyslexia/reading

difficulties are able to reach a benchmark level and not require special education services. Based on the research conducted by Mainstays, 2019, only 10% of students performing below the 15th percentile in Grades 1st and 2nd in reading decoding (60-80% were English learners) required a referral to special education after receiving 100 hours of targeted, evidence-based, reading instruction with a trained interventionist (recommended over one school year per the research).

Each district determines the criteria that are used to identify at-risk students that may need targeted intervention. If greater than 20% of students in general education are identified as at-risk, professional development and support of the instructional program should be considered (Batsche et al., 2006).

A Standard Treatment Protocol Approach uses research-based practices to provide operationalized, highly structured and systematic, tiered interventions with cut points, and includes participating students who have similar needs.

Tier 1 Intervention

Research suggests approximately 80% of a given student population should achieve proficiency in Tier 1. Tier 1 intervention is implemented within the context of the CORE curriculum in the general education classroom. It involves the teacher implementing targeted, specific strategies for students that are struggling in any one or more academic areas that go above and beyond the typical instructional strategies for all students: Below are some examples of Tier 1 academic intervention or support:

- Provide small group academic support during a time when other students are engaging in independent work or with trained classroom volunteers.
- Provide additional academic support via a computer or web-based program in class
- Provide targeted accommodations such as breaking assignment into steps, providing word banks, front loading vocabulary, providing multiple choice options to specific students via general education (pull out or in classroom).
- Use peer tutoring or tutoring with an older student, or a PALS model to provide a struggling student more support.

Tier 2 Intervention

At a Tier 2 level, supplemental instruction is provided to students who exhibit poor response to the targeted instruction provided through Tier 1 strategies (Batsche et al., 2006). Tier 2 is provided in addition to Tier 1 strategies via the classroom and can be delivered through an *Individualized Problem Solving Approach* (Bergan, 1997) and/or through a Standard Protocol Model/Standard Treatment Protocol (Deno & Mirkin, 1997). Research suggests a merger of the two approaches at Tier 2 is most effective (Batsche et al., 2006).

- A Problem-Solving Approach allows the SST/PLC to design individualized

interventions to address the specific academic or behavioral needs of each student.

The SST and/or *professional learning communities (PLC teams)*, including the teacher, determine which specific curricular strands will be addressed. Baseline data assessment tools, methods/tools to be used for measuring ongoing progress, as well as frequency of benchmark tracking intervals should be established.

Below are some examples of Tier 2 academic intervention or support:

- Provide small group academic targeted intervention that is less intensive than a level 3 intervention which is daily for 40+ minutes or more in a group of 1:3 or less. A tier 2 intervention might be 20-30 minutes weekly 3-4 times weekly. The group size is typically up to 5 or 6 students at the elementary level.
- Student engages in a web based program via a device or computer 2-3 times or more weekly for 20-30 minutes. This program would have tracking and monitoring built in so that the teacher could monitor progress.
- Student receives 2-3 days, 20-30 minutes of targeted intervention by an instructional assistant or volunteer.

It is recommended that the SST and/*or professional learning community (PLC)* meets at specified intervals to plan the interventions, including strategies, staffing and review of progress data Tier 2 teachers and other intervention staff compile data to present to the SST/PLC. Data is reviewed to determine whether progress, defined as making adequate incremental growth towards the LRG, meets established targets. Research suggests that an additional 15% of students will achieve
proficiency with Tier 2 intervention.

Tier 3 Intervention or most intensive level)

Tier 3 (or the highest most intensive tier prior to a referral to special education), the student receives a specially designed, researched-based, intervention program. The intervention is implemented with fidelity. Tier 3 represents an increase of intensity in terms of frequency, duration, and/or decrease in student-teacher ratio. Based on the research no more than 10-15% of students receiving a Tier 3 intensive intervention will require a referral to special education.
It is recommended by the San Mateo SELPA that students receive Tier 3 (or intensive intervention) prior to a referral to special education when learning disabilities are suspect:

- 80-110 hours in a given school year (typically 4-5 days weekly for 40 minutes or more)
- Ratio of no more than 3-4 students to interventionist
- Deliver by experienced, trained interventionist
- Use of evidence-based methodologies

(see Appendix B – 3 Worksheet / Forms Documents *Tiered Intervention Pre-referral Checklist*)
(Vaughn, et. al.,2010; Mainstays, 2019; Shaywitz, et. al., 2008)

Note that the above recommendations apply specifically to reading with writing instruction included in the reading intervention. There was no specific math data located, but it would be safe to assume that the research regarding level of intensity required to ameliorate a mild to moderate math disability would align to the above cited research regarding literacy intervention.

Progress Monitoring
Informal summative progress is monitored on a continuously (at least weekly) basis. Overall summative progress monitoring is recommended to take place quarterly or at the end of each trimester (depending on the age and grade level). This data should be reviewed by the *student study team* (SST). The team decides if the student is making adequate progress toward meeting benchmark established targets. Research suggests approximately 5-10% of the student population or students in a given classroom (typically functioning in the bottom 10-15%) will need / require intensive intervention in order to rule out the need for special education and address over-identification of students.

Determining Effectiveness of Intervention
If the student achieves the benchmark level in all areas of targeted assessment, then the team may decide to either offer another quarter or trimester of intensive interventions or exit the student. If a particular student or students is not making progress, it is also essential for the interventionist to look at programs/methodologies to ensure the methods utilized match the targeted needs of the student. For example, if the student manifests more difficulties with phonological awareness/phonetic skills, an orthographic skills-based program that focuses on memory of the whole word or letters may not be as effective at remediating the underlying weakness. Conversely, if a student has stronger phonetic decoding skills but manifests weak orthographic skills, then a phonics-based program may not be as effective.

If the student(s) does not achieve the benchmark level in all targeted areas, then the team may decide to offer another semester or more of intensive intervention. After 80-110 hours of intensive intervention in a given school year, the SST may consider initiating a referral for a special education assessment. If special education is being considered, it is recommended that the SST team include appropriate representation from special education as appropriate (i. e. school psychologist, speech and language specialist, education specialist, etc.).

MTSS/ RtI Pre-referral Interventions Resources

California Department of Education	http://www.cde.ca.gov/ci/cr/ri/
RtI Action Network	http://www.rtinetwork.org/
San Mateo County Office of Education Multi-tiered System of Support	https://www.smcoe.org/for-schools/district-and-school-improvement/multi-tiered-system-of-support.html
What Works Clearinghouse	http://ies.ed.gov/ncee/wwc/
West Ed	http://www.wested.org/
California Department of Education Dyslexia Guidelines	https://www.cde.ca.gov/sp/se/ac/documents/cadyslexiaguidelines.pdf

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Section 5

Multi-Disciplinary TEAM Assessment Planning

Introduction to Multi-Disciplinary Assessment

Completing a multidisciplinary assessment requires that highly trained team members from multiple disciplines be involved in the evaluation process. It also necessitates that those team members consider multiple sources of data related to the reason for referral. In the early stages, teams must take into consideration information (i.e., exclusionary factors) and other data that they have gathered related to the student and determine which team members from which disciplines should be involved in the evaluation in order to develop an assessment plan.

Once the decision is made to consider eligibility for a *specific learning disability* (SLD) and an assessment plan is signed, the team works together collaboratively to assess the student and compile the data. Based on the reason for referral, observations, record reviews, interviews and other relevant information gathered, the assessment team will begin to form a working hypothesis regarding which specific areas may require further evaluation (e.g., individual processing and academic areas, adaptive skills, social-emotional domains, etc. Eugene, 2010).

Team Planning for Cross-Battery Multi-Disciplinary Assessment

It is recommended that all team members communicate with each other early in the process, and allocate time to plan which professional will complete which portion(s) of the assessment, etc. They will look for indications related to the student's potential strengths and weaknesses, which will assist relevant team members in determining which assessment tools should be used to investigate each area (Cristo, 2010). It may be useful to reference the *Comprehensive Matrix of Processing- Achievement Relations, Evaluating Significance COMPARES* **(see Appendix A – 2 *Compares Chart* Reference Documents)** in the team planning process. This tool assists teams in determining which psychological processing areas are linked by research to the academic area(s) of concern in order to hypothesize areas of potential processing weaknesses. Conversely, teams can also determine which processing areas may be potential areas of strength. In addition, *The SLD Planning Worksheet for Multi-Disciplinary Assessment* ***Teams*** **(see Appendix B – 4 Worksheets and Forms *Multi-Disciplinary Assessment Team Specific Learning Disability (SLD)*** *Cross Battery Planning Too* may be utilized by school practitioners in planning for assessment.

The San Mateo County SELPA recommends that assessment results from the various assessment team members be compiled into one multi-disciplinary assessment report, as this is a logical and useful format for communicating findings to parents/guardians and other IEP team members.
This method assists the reading in understanding the student's individual strengths and/or weaknesses across various domains, and how they relate to the conceptualization of a *specific learning disability (SLD).*

Engaging in a best-practice multi-disciplinary team process creates an opportunity for

assessment teams to work together in a purposeful, efficient and meaningful way. Planning, communication, and teamwork are essential to the success of a comprehensive and valid assessment.

It is important to also note that there may be times when an individual team member determines that further investigation into additional processing or academic areas is warranted based on their preliminary assessment results. For this reason, it is important that assessment team members engage in ongoing communication throughout the assessment process.

Planning time will be well spent, as it will help to ensure that all relevant areas are investigated, while decreasing the likelihood that team members from different disciplines duplicate or over-test the same areas unnecessarily (e.g., school psychologist and speech-language pathologist both assessing auditory memory). Completing a thorough evaluation will also help assessment teams to reduce the likelihood of identifying students with SLD when they do not have a true specific learning disability (Hanson et al., 2009).

Section 6

Methods of Engaging in Cross-Battery Assessment Using *Pattern of Strength and Weaknesses (PSW)* Model to Determine SLD Eligibility

Introduction to *Pattern of Strengths and Weaknesses (PSW)* Models

There are various prevailing PSW models. The most prevalent models have many similarities (Flanagan et al., 2020). All PSW models follow a multi-source approach to conducting evaluations to determine *specific learning disability (SLD)* eligibility. Each model also requires information about the cognitive processing weaknesses that are likely interfering with academic achievement in-order-for professionals to determine appropriate targeted intervention or *specialized academic instruction (SAI)*. In addition, there are the following common elements in the prevailing PSW models:

- Require the presence of cognitive strengths and weaknesses
- Require an evidence-based alignment between cognitive and academic weaknesses.
- Require consistency between the related cognitive and academic weaknesses.
- Require thorough examination of exclusionary factors as required by ed code
- Involve statistical data in addition to clinical judgment in the diagnostic process for determining SLD eligibility for special education

Neither the Dehn or the XBA model requires a specific deficit to inform whether the student manifests a *pattern of strengths or weaknesses (PSW)s.* In both models, an intra-individual normative weakness is utilized to determine if a student manifests a PSW.

It is imperative that assessment teams be fluent in their understanding of cross battery assessment and what each assessment tool measures. They must also be able to apply their findings, consider ecological validity of any findings, and come to a logical conclusion regarding eligibility recommendations based on statistics and valid reasoning (Hanson et al., 2009). In addition to examining scores. Suhr (2008) notes that more is required when making decisions regarding SLD eligibility:

Making valid determinations for SLD eligibility using a cross-battery *pattern of strengths and weakness (PSW)* model requires that information gathered through various sources to include: behavioral observation, collateral reports, school records, medical and neurological records, and administration of standardized tests be integrated and applied, based on psychological and neuropsychological science, to test patterns seen in a given evaluation.

It is imperative that assessment team members carefully consider exclusionary factors and the definition of SLD as part of their analysis before making statements regarding eligibility (see “What SLD is and What it is Not” and “Exclusionary Factors” sections of this manual).

The San Mateo SELPA strongly recommends that assessment teams use a cross-battery *Pattern of Strengths and Weaknesses (PSW)* model to determine SLD eligibility. To make this determination, the first step is for the school psychologist to utilize one of the following two cross battery theoretical models (available in web/computer-based software) to determine if a student potentially manifests a *PSW* (more specificity

regarding each model is provided in Section 8):

1. **XBA aligned with the Dual Discrepancy / Consistency (DDC**) Model with C-Lim required for students that are multi-lingual English learners **(see Appendix B – 6 Worksheets / Forms Documents *English Learner PSW Assessment Process***).

2. **Dehn's Cross Battery Model (see Chapter 9 for more specific details)**

Cross Battery Assessment Tips

- Engage in achievement testing prior to cognitive testing, if possible.
- Remember to assess in all seven CHC Broad Abilities, including a minimum of two (2) subtests for each of the seven broad abilities. Best practices indicate that these 2 subtests should come from qualitatively different narrow abilities (Ga may only be covered with Phonetic Coding which is only one narrow ability).
- If the student demonstrates weak spelling and recognition of high frequency sight words with automaticity, consider assessing processing areas that inform orthographic processing.
- If speech and language skills are also a suspected area of weakness, administer academic achievement tests in areas of oral language and consider collaborating with the SLP to determine if any of the assessment tools being administered will assess CHC abilities.
- Consider the cohesion of subtests within broad ability categories to determine if additional subtests may be needed to interpret broad area scores.

Note that for determining SLD eligibility for students that are multilingual English learners, there are other legal assessment requirements and recommendations for engaging in best practice assessment. The San Mateo County SELPA strongly recommends that school psychologists use the C-Lim in conjunction with the cross battery use of the XBA when assessing a student that is a multi-lingual English learner (refer to Chapter 11).

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(**see Appendix A-3 Reference Documents Comparison of *Language Differences Versus Disabilities* and *EL PSW Assessment Process and EL Pre-Referral Checklist*)**

The next step in the assessment process is for the school psychologist to collect informal and formal assessment data from all relevant assessment team members, as well as from other sources. These other sources of data shall include, but not be limited to: parental input, teacher input, observation in varied environments, and collection of intervention data for intervention providers.

The School Psychologist shall then compile the information and draft a multi-disciplinary assessment report. Lastly, the School Psychologist shall complete and attach to the assessment report the San Mateo County SELPA PSW SLD Eligibility Determination Form

that supports the final recommendation made regarding whether the student is deemed to be eligible for special education as SLD per the assessment report.

The final determination regarding whether the student shall be made eligible for special education as having a *Specific Learning Disability* (SLD) is to be made by the IEP team after reviewing the multi-disciplinary assessment report and discussing the matter.

EC 556026; 56320 and 56337; and Title 5 of the CCR Section 3030(b)(10)

Section 7

Evaluating Academic Strengths and Weaknesses

Evaluating Academic Strengths and Weaknesses

When evaluating a student for SLD identification, the team must determine that a student demonstrates a weakness in one or more of the following academic areas (CCR Title 5 Section 3030 (b)(10)):

1. Basic reading skills
2. Reading fluency skills
3. Reading comprehension
4. Written expression
5. Math calculation
6. Math reasoning/problem solving
7. Listening comprehension and/ or
8. Oral expression.

In determining whether a student possesses an academic weakness, the team gathers multiple sources of information regarding academic performance. For Special Education eligibility purposes, a student must demonstrate a history of a weakness (it is recommended that this weakness has been manifested more than one school year) in one or more of the eight academic areas listed above as demonstrated by documentation from **all of the following sources:**

1. Norm-referenced standardized academic assessments (e.g. Woodcock Johnson IV, KTEA III, or WIAT IV Tests of Achievement)
2. A minimum of three (3) of the following:
    a. Grade level criterion-referenced assessments
    b. Grades/Report Cards
    c. Work samples
    d. Progress monitoring data
    e. Informal assessment data (reading rubrics, 1 minute timed readings at various grade levels denoting words correct per minutes (WCPM), essays scored with a writing rubric, etc,)
    f. Statewide Assessments
    g. Progress towards IEP goals (available for triennial assessments)
3. Teacher observations of student performance in the classroom and other environments

When examining data from standardized academic achievement tests, an assessment team should not rely on a single test score for eligibility determination. Multiple standardized achievement tests or standardized achievement tests with supporting informal assessment data should corroborate a specific area of academic need. In addition to the comprehensive academic achievement test, assessment teams can administer other cross-battery achievement tests to support the low score(s). **(see Appendix A – 1 Reference Documents *Standardized Academic Tool Cross Battery Sub Test Chart).***

Standard scores for most achievement tests are based upon norms that are either age-based or grade- based. It is highly recommended that in most circumstances, assessments should be scored using age-based norms for the achievement scores (since aged-based norms are used for cognitive scores). However, if a student is outside of the typical age range for his/her grade level (e.g., a student that has been retained), then grade-based norms should be utilized.

Recommended Guidelines and Threshold Academic Achievement Levels
The table below contains San Mateo County SELPA's recommended academic achievement score guidelines for determining SLD eligibility that assessment teams should use to assist in decision making for identification of academic strengths and weaknesses.

Reminder, formal data sources should be supported by informal data. In addition, formal academic assessment information is only one part of the identification process for students found eligible under the category of Specific Learning Disability.

Academic Assessment Type	Strength	Weakness
Standardized Academic Achievement Test	General Guidelines **≥25th %ile or it is determined the student manifests a Pattern of Strengths** using the Dehn or XBA approach	**Recommended Threshold for Pattern of Weakness Level** **≤10th %ile or Standard Score or below a SS 80 (Dehn)** In at least one of the Eight IDEA Academic Achievement Areas of Eligibility 95th Percentile Confidence Interval
Additional Academic Data: **(Work Samples, Grades, Grade Level Assessments, Progress Monitoring (PM) Data, CBM, Progress on Goals, etc.)**	At **"benchmark" level** or above grade-level when compared to the norm of the class/grade level **Elementary Age Students** 2 or 3 on report cards or Approaching/At/Exceeding Standards. Meeting/Exceeding	At "at-risk" level or below when compared to the norm of the class/grade level **Elementary Age Students** Scores in the bottom 10-15% of class or 1's (lack of concept mastery) Falling below intervention

	benchmark level or intervention plan aim line **2ndry Age Students** Scores/Grades 70% or greater Completes work and/or assessments that show mastery of concepts (70% or higher).	plan aim line or the "benchmark level" for at least 3 or 4 consecutive data points over a 6-12 month interval on recent probes (current or prior year) – intervention provided with fidelity (see Section 4) **2ndry Age Students** Scores/Grades 69% or below in CORE academic areas Informal assessments indicate lack of concept master Documentation of teacher or school-based intervention that indicates student engaged but made limited progress in CORE academic areas (grades 69% or lower)
Observation of Student	Observations demonstrate average or above average achievement in comparison to other students in the classroom.	Observations demonstrate that students academic behaviors (e.g. on task, correct materials, following along) are inconsistent and/or outside of the norm when compared to their class.

Section 8

Evaluating Processing Strengths and Weaknesses

Introduction to Theoretical Constructs Guiding the PSW Model

The San Mateo County SELPA adheres to the following two theoretical assessment constructs or PSW models when considering if a student demonstrates a *pattern of strengths and weaknesses* (PSW) and is eligible for special education under the category of *Specific Learning Disability.* Those two models are:

1. The Dual Discrepancy/Consistency Method (DD/C) and,
2. Dehn's model

Overview of the XBA Aligned to the Dual Discrepancy/Consistency Method

Specific Learning Disability (SLD) is a discrete condition differentiated from generalized learning failure by generally average cognitive ability (or better) and a learning skill profile exhibiting significant variability indicating cognitive processing and ability areas of strength and weakness. The Dual Discrepancy/Consistency (DD/C) method proposed by Flanagan and her colleagues (e.g., Flanagan, Ortiz, & Alfonso, 2013; Flanagan, Oritz, Alfonso, & Mascolo, 2002) is designed to identify SLD in accordance with this definition.

The DD/C method (depicted in Figure 1) identifies specific discrepancies and consistencies that correspond with what is known about the SLD construct (Flanagan & Alfonso, 2011).

- In students with SLD, there exists an empirical or otherwise clearly demonstrable and meaningful relationship, or ***consistency***, between the cognitive and academic weaknesses (or deficits).
- This consistency typically co-occurs with a number of cognitive strengths (not just one), suggesting generally average ability to think and reason.
- In the DD/C method, statistically significant and clinically meaningful ***discrepancies*** between (1) cognitive strengths and the respective areas of cognitive weaknesses as well as between (2) cognitive strengths and academic weaknesses are identified, which constitute the two discrepancies in the DD/C method.

This approach, which is based not only upon the Cattell-Horn-Carroll (CHC) theory but also on current neuropsychological processing concepts, allows assessors to use traditional stand-alone ability assessments and additional cognitive, achievement, and neuropsychological subtests across batteries to more exactly and reliably determine individual needs and targeted interventions (Flanagan, Ortiz, & Alfonso, 2013).

Seven broad abilities are encouraged to be examined in the comprehensive assessment for SLD identification; additional broad abilities can also be examined. Information regarding these specific seven broad abilities and their corresponding narrow abilities can be found in the most recent edition of the Essentials book (Flanagan, Ortiz, & Alfonso, 2013). The seven broad abilities are:

1. Comprehension Knowledge (Formerly Crystallized Intelligence)
2. Fluid Reasoning
3. Long-Term Storage and Retrieval
4. Short-Term Memory
5. Visual Processing

6. Auditory Processing
7. Processing Speed

The DD/C pattern of cognitive and academic strengths and weaknesses is more psychometrically sophisticated, descriptive, and informative than the traditional ability–achievement discrepancy pattern and is more in line with the SLD construct.

Readers are strongly encouraged to read the authors' Essentials book and obtain the most up-to-date software when utilizing the DD/C method. Additional training on the XBA methodology can be found on the School Neuropsychology website at www.schoolneuropsych.com

The Dual Discrepancy/Consistency Method of Identifying a Pattern of Strengths and Weaknesses that Aligns with the XBA SLD Construct (Using XBASS)

A specific learning disability (SLD) has been defined most recently as a unique pattern of cognitive and academic strengths and weaknesses. Specifically, SLD is a discrete condition differentiated from generalized learning failure by generally average cognitive ability (or better) and a learning skill profile exhibiting significant variability indicating cognitive processing and ability areas of strength and weakness. The Dual Discrepancy/Consistency (DD/C) method proposed by Flanagan and her colleagues (e.g., Flanagan, Ortiz, and Alfonso, 2013; Flanagan, Oritz, Alfonso, & Mascolo, 2002) is designed to identify SLD in accordance with this definition. The DD/C method is an alternative, researched-based approach to SLD identification consistent with the federal definition of SLD (34 CFR Part 300.8[c]10) and the third option specified in the procedures for identifying SLD (34 CFR Part 300.309) in the 2006 regulations that accompany IDEA.

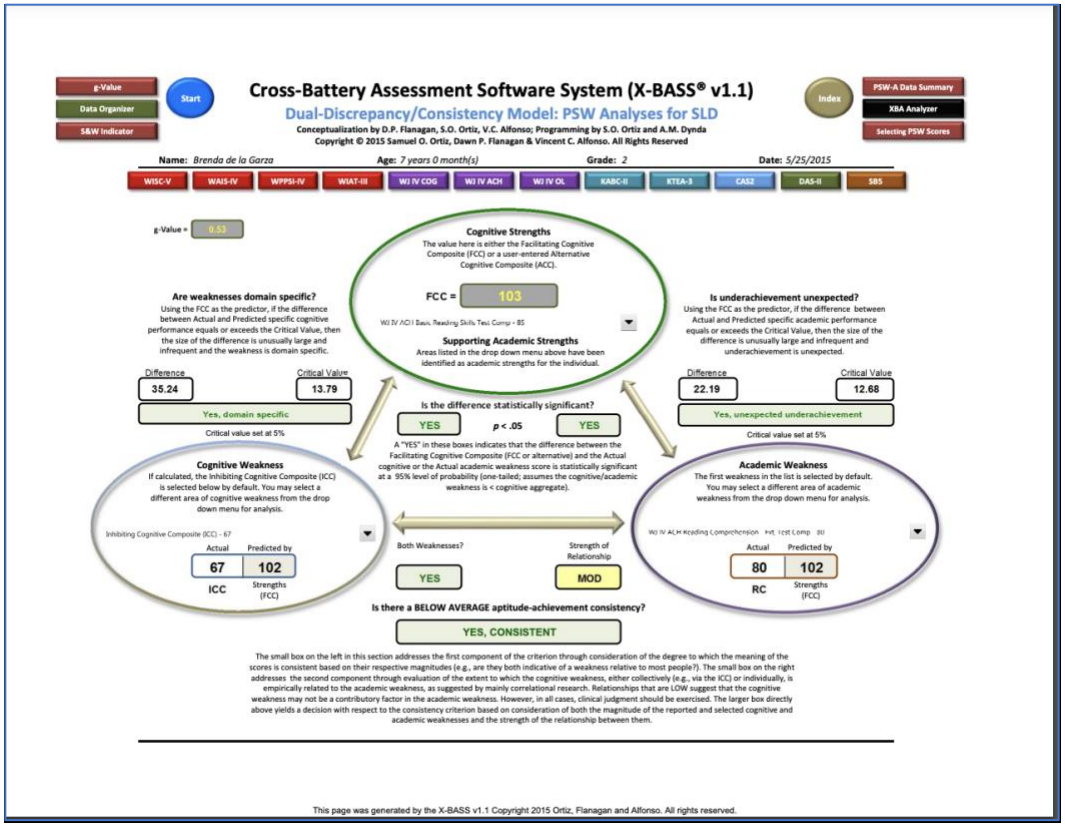

Figure 1

The DD/C method depicted in Figure 1 above identifies specific discrepancies and consistencies that correspond with what is known about the SLD construct (Flanagan & Alfonso, 2011). In students with SLD, there exists an empirical or otherwise clearly demonstrable and meaningful relationship between the cognitive and academic weaknesses (or deficits), as the cognitive weaknesses are presumed to impede academic skill acquisition and development. The cognitive weaknesses that are most strongly related to the areas of academic weaknesses are often referred to collectively as an *aptitude*, hence the need to demonstrate a *below average aptitude-achievement consistency* in the DD/C method. This consistency typically co-occurs with a number of cognitive strengths (not just one), suggesting generally average ability to think and reason. In the DD/C method, statistically significant and *clinically* meaningful discrepancies (based on frequency data) in measured performance between cognitive strengths and the respective areas of cognitive *and* academic weaknesses are identified, which constitute the two discrepancies in the DD/C method. The DD/C pattern of cognitive and academic strengths and weaknesses is more psychometrically sophisticated, descriptive, and informative than the traditional ability–achievement discrepancy pattern and is more in line with the SLD construct. The concepts and relationships inherent in the DD/C model (see Figure 1) are operationalized via the *Pattern of Strengths and Weaknesses Analyzer v1.0* software program (PSW-A), which accompanies *Essentials of Cross-Battery Assessment* 3e (Flanagan et al., 2013).

(see Appendix B – 5 Worksheets and Forms Documents *XBA Seven Core Broad Abilities Tool Inventory).*

Overview of Dehn's PSW Model

According to Dehn's (2014) PSW model, an SLD determination for eligibility for special education is supported when the following occurs:

1. At least one psychological process is identified as a statistically significant, intra- individual weakness.
2. There is at least one processing strength. Ideally, there should be a statistically significant intra-individual strength, but a processing score within the average range may be considered a strength.
3. A low area of achievement being considered for SLD should have at least one associated intra- individual processing weakness that is supported by research.
4. There should be consistency between the processing intra-individual weakness score and the related area of achievement being considered for SLD. That is, they should both be low scores, or the process score could be lower than the achievement score.
5. In agencies where a PSW in achievement is required, there should also be a statistically significant intra-individual weakness in the area of achievement being considered for SLD identification.

Denh's model utilizes the *Psychological Processing Analyzer (PPA)* to operationalize the above five criteria of Dehn's PSW model. Details on the use of the PPA, the statistical

procedures underlying the decisions, and interpretation of the results are provided in later sections of this manual.

Dehn's PSW Model is built on theoretical principles, theories, and research originating from cognitive psychology, educational psychology, and neuroscience. It promotes that academic learning depends primarily on a subset of psychological processes known as cognitive processes. Significant weaknesses or deficits in one or more cognitive processes will create learning difficulties that may result in a specific learning disability (SLD). See Figure 2 below.

Cognitive Weaknesses Aligned to Academic Areas of SLD Eligibility

Basic Reading Skills	**Reading Fluency**	**Reading Comprehension**	**Mathematics Calculation**	**Mathematics Problem Solving**	**Written Language**	**Oral Expression**	**Listening Comprehension**
			Attention		Attention		
Auditory Processing		Auditory Processing			Auditory Processing		Auditory Processing
		Executive Functions	Executive Functions	Executive Functions	Executive Functions	Executive Functions	Executive Functions
					Fine Motor		
		Fluid Reasoning	Fluid Reasoning	Fluid Reasoning			
Verbal Long-Term Recall	Verbal Long-Term Recall	Verbal Long-Term Recall	Verbal Long-Term Recall	Verbal Long-Term Recall	Verbal Long-Term Recall	Verbal Long-Term Recall	
Visual-Spatial Long-Term Recall	Visual-Spatial Long-Term Recall	Visual-Spatial Long-Term Recall	Visual-Spatial Long-Term Recall	Visual-Spatial Long-Term Recall			
Oral Language		Oral Language		Oral Language	Oral Language	Oral Language	Oral Language
Phonological Processing	Phonological Processing				Phonological Processing	Phonological Processing	Phonological Processing
Processing Speed	Processing Speed		Processing Speed	Processing Speed	Processing Speed	Processing Speed	Processing Speed
			Visual-Spatial Processing				
Verbal Working Memory		Verbal Working Memory	Verbal Working Memory	Verbal Working Memory	Verbal Working Memory	Verbal Working Memory	Verbal Working Memory
		Visual-Spatial Working Memory	Visual-Spatial Working Memory	Visual-Spatial Working Memory			

Figure 2

The complexity of neuropsychological processing makes it difficult to identify and assess discrete processes. Furthermore, completion of any given task requires the interaction of numerous processes. The list of processes recommended for a SLD determination assessment (see below) includes those that have strong evidence-based correspondence with the learning of specific academic skills. The list excludes skills and abilities that are primarily the product of processing, such as verbal or crystallized (knowledge) abilities. The subsequent table displays the processes that have the strongest relations with specific academic skills. The model focuses on key neuropsychological processes that function as aptitudes for specific academic skills. Note that there are far more processing areas delineated in this model than in the XBA. In Dehn's model, the proposed processing areas are:

- Attention

- Auditory Processing
- Executive Functions
- Fine Motor Processing
- Fluid Reasoning
- Long-Term Recall
    - Verbal Long-Term Recall
    - Visual-Spatial Long-Term Recall
- Oral Language Processing
- Orthographic Processing
- Phonological Processing
- Processing Speed
- Visual-Spatial Processing
- Working Memory
    - Verbal Working Memory
    - Visual-Spatial Working Memory

Selective testing is conducted by developing a hypothesis of the involving psychological processes, selecting only those subtests that are needed to measure the processes and skills under consideration, and utilizing a cross-battery approach in the selection of composites and subtests required to assess the chosen processes (Dehn, 2014).

Additional information can also be obtained from a webinar, which can be purchased from his website: www.schoolhouseeducationalservices.com

Note that according to Dehn, this criterion can also be met when a related processing score is significantly lower than the achievement deficit.

Processing Definitions Aligned with California Ed. Code

The following are working definitions of the processing areas outlined in California Ed. Code (California Department of Education: Section 3030(b)(10), Title 5, CCR) and are not intended to be exhaustive. For more comprehensive information regarding these processing areas and related sub-areas, please refer to the COMPARES Glossary.

Auditory Processing
Auditory processing refers to the ability to perceive, analyze, and synthesize a variety of auditory stimuli. Measures of auditory processing tap into phonemic awareness (rhyming, segmentation, sound-symbol association), auditory perception, sound discrimination, auditory mental manipulation, as well as auditory memory. Auditory processing matures early, after gradual development (Dehn, 2014). See "Phonological Processing," "Auditory Memory," "Auditory Processing Speed," in the COMPARES Glossary.

What this may look like: **"**Students with an auditory processing weakness have no problem with hearing – they simply do not process or retain what they take in through their ears. An auditory processing weakness is not a reflection of intelligence (although non-response to oral information often makes it appear that these students are "slow"). These students tend to be accused of "daydreaming" because so often they do not "get" what has been said to them.

They may be able to repeat it word-for-word, but cannot explain what was meant. (In some cases, as with auditory memory deficits, they cannot repeat what was said.)" (Rodrigues & Decker, 2007, p. 8)

Visual Processing
Visual Processing is the mental/psychological construct defined by cognitive mechanisms that are involved in the retention, processing, and organization of visual information so as to demonstrate accurate perception, as distinct from visual acuity. This type of cognitive processing ability involves the ability to generate, perceive, analyze, synthesize, manipulate, and transform visual patterns and stimuli. Measures of the visual process may include factors such as spatial awareness, visual-perceptual skills, perceptual organization, visual mental manipulation, and perceptual discrimination. Visual-Spatial Processing matures early, after gradual development (Dehn, 2014). See "Visual-Spatial Processing," "Orthographic Processing," "Visual Memory," "Visual Processing Speed," and "Processing Speed" in the COMPARES Glossary.

What this may look like: **"**This processing weakness affects visual learning but has nothing to do with acuity – or lack of it – in vision. This visual processing weakness is not an impairment of intelligence. What this student sees does not get to the brain in the same form as the eye beholds it. The brain may distort information brought in through the eyes. The student may have difficulty tracking (seeing print consistently in a line from left to right), retaining or understanding what is in print, and may experience headaches or blurred vision from concentration on visual tasks for prolonged periods" (Rodrigues & Decker, 2007, p. 11).

Cognitive Abilities
Cognitive Abilities is an umbrella term, according to the California Ed. Code, which includes Association, Conceptualization, and Expression. See the COMPARES Glossary for more information regarding these three terms.

Association
Association is the mental/psychological process of remembering basic units of information and establishing systems for relating those units to each other.

What this may look like: The student will have difficulties memorizing words as gestalts and with orthographic processing / spelling. They also may manifest difficulties memorizing basic math facts.

Conceptualization
Conceptualization is the mental/psychological process of understanding or grasping the significance and meaning of increasingly complex information and ideas, including abstract thinking and reasoning. Conceptualization is also known as Fluid Reasoning (Gf) and Problem-Solving. See definition of "Fluid Reasoning" in the COMPARES Glossary.

What this may look like: The student may struggle to read information and process the main idea of key concepts from that information, thus the inability to read and utilize information to assist with problems solving. This may significantly impact reading comprehension and mathematical reasoning.

Expression
Expression is the mental/psychological process of conveying the meaning of information to others via oral, written or gestural language. See "Language Processing" in the COMPARES Glossary.

What this may look like: The student may have an inability or difficulty in understanding

complex concepts, making associations, or seeing the relationships between ideas and concepts. This student may have no difficulty with retaining information, but will generally have a very difficult time forming generalizations from the information in order to determine understand the logic. A language processing weakness is not necessarily a speech disability, nor is it a language processing weakness, or a reflection of intelligence. In fact, students with this processing weakness often display frustration at their inability to express what they understand (Expressive Language Disability), or to understand what words they hear (Receptive Language Disability). With a language processing weakness it is specifically words that create a problem (whether auditory or visual). Like a stroke victim, students with a language processing weakness may be caught not by lack of intelligence, but by lack of ability to process words" (Rodrigues & Decker, 2007, pp. 7-8).

Sensory-Motor Skills

Sensory-Motor or Psycho-Motor Integration is the mental/psychological process that involves engaging perceptual and cognitive skills to organize physical output. As a basic psychological process involved in learning, sensory-motor skills chiefly involve fine-motor and graphomotor output. The sensory-motor process may include measures of visual-motor integration, motor speed, and overall fine-/gross-motor skills. Fine motor processing matures early after gradual development (Dehn, 2014). See "Fine Motor Skills," "Visual Motor Skills," "Graphomotor Skills," "Sensorimotor Memory," "Sensorimotor Speed," "Oral Motor Speed," "Psychomotor Abilities," and "Processing Speed".

What this may look like: the student will struggle with visual motor integration, but this difficulty has nothing to do with acuity – or a lack of it – in vision. This student will not be able to consistently coordinate what she/he sees with muscle movements (especially the fine motor muscle movements needed for pen and pencil work). Students with this weakness have nothing physically wrong with their hands. There is, however, a dysfunction in the area of the brain that controls the planning of the hand-muscle movements. As a result, writing does not come naturally to the students with this disability as it does to most of us. The student must concentrate so intently on forming each letter on the page that they have very little mental energy left over for developing their thoughts. Students with this weakness often have difficulty with tasks involving copying, drawing, cutting, pasting, folding, puzzles, and handwriting. Copying from the board or a book are examples of using visual-motor skills. These students generally do poorly in writing task and have become quite sophisticated in their avoidance techniques" (Rodrigues & Decker, 2007, p. 11).

Attention

Attention is the mental/psychological process of maintaining alertness to incoming sensory stimuli in order to process it. Attention requires the sustained focus of cognitive resources on information while filtering or ignoring extraneous information. Attention is a basic or "gatekeeping" function that is a foundation to all other neurological/cognitive functions. Attention is a process that matures late after gradual development (Dehn, 2014). See "Executive Functions" in the COMPARES Glossary.

Some researchers divide attention into component parts, which may be measured separately:

- Focused Attention: The ability to respond discretely to specific visual, auditory or tactile stimuli.
- Sustained Attention (vigilance): The ability to maintain a consistent behavioral

response during continuous and repetitive activity.

- Selective Attention: The ability to maintain a behavioral or cognitive set in the face of distracting or competing stimuli. Therefore, it incorporates the notion of "freedom from distractibility."
- Alternating/Shifting Attention: The ability of mental flexibility that allows individuals to shift their focus of attention and move between tasks having different cognitive requirements.
- Divided Attention: This is the highest level of attention and it refers to the ability to respond simultaneously to multiple tasks or multiple task demands.

What this may look like: **"**Students with this processing weakness do not seem to be able to filter out background noise of any kind. This is the student who always turns around when the door opens, who asks you some totally irrelevant question in the middle of an important discussion, and answers anytime you ask anyone in the class a question. This student may not be able to accurately process spoken language when there are competing auditory distractions: i.e. student may be unable to understand test instructions if students around him/her are shuffling feet, wrestling papers, or if there is noise in the halls or outside of windows" (Rodrigues & Decker, 2007, p. 13).

Phonological Processing

Phonological Processing is listed as a "basic psychological process" by California Education Code (California Department of Education: Section 3030(b)(10), Title 5, CCR). This type of processing involves the ability to hear, manipulate and, in the case of phonological memory, remember phonemes. Phonological Processing matures early after gradual development and is associated with the Temporal and Parietal lobes of the brain (Dehn, 2014a).

There are three sub-types of phonological processing:

1. Phonological Awareness
2. Phonological Working Memory
3. Phonological Retrieval or Speed (involves rapid naming)

Per Wagner & Torgesen (1987), below are descriptions of these three processes:

Phonological Awareness

The awareness of the sound structure of a language and the ability to consciously analyze and manipulate this structure via a range of tasks, such as speech sound segmentation and blending at the word, onset-rime, syllable, and phonemic levels. Phonological awareness is the umbrella term; phonemic awareness applies when the units being manipulated are phonemes, rather than words, onset-rime segments, or syllables.

What this may look like: This student will have difficulty isolating beginning and ending sounds of words provided auditorily, as well as providing or recognizing rhyming words, blending sounds together, etc. This impacts a child's ability to learn blend sounds and form words when later provided with visual representations of words "phonetic decoding".

Phonological Working Memory - this involves storing phoneme information in a temporary, short-term memory store (Wagner & Torgesen, 1987). This phonemic information is then readily available for manipulation during phonological awareness

tasks. Nonword repetition (e.g., repeat /pæg/) is one example of a phonological working memory task.

What this may look like: The student will manifest difficulties processing sounds in order to later retrieve them. They hear the sounds but struggle to repeat them back in a meaningful way.

Phonological retrieval – this is the ability to recall the phonemes associated with specific graphemes, which can be assessed by rapid naming tasks (e.g., rapid naming of letters and numbers). This ability to recall the speech sounds in one's language is also integral to phonological awareness.

What this may look like: The student hears phoneme sounds but is very slow or is unable to later repeat them or use the previously learned sounds to engage in "phonetic decoding". Their decoding will be laborious and slow, and many times they can say each sound but struggle to blend the sounds back together to make a word.

See the *COMPARES* Glossary in **(Appendix A – 2 Reference Documents COMPARES Chart)** for more detailed information about the above areas of processing related to the PSW process.

Determining SLD Eligibility Using PSW

Note: The determination there is a presence of a *pattern of strengths and weaknesses* (PSW) utilizing one of the approved PSW models (that incorporates the use of a web/computer-based platforms) alone, does not constitute the final professional determination by the school psychologist regarding whether or not a student meets SLD eligibility criteria. In addition to the above criteria, the student must demonstrate a below average aptitude – achievement consistency (processing weakness aligns to low academic area(s). Essentially this means the students' areas of low academic functioning are supported in the research as being caused by or align to the assessed areas of processing deficits for a given student.

It is also important that school psychologists gather information through informal means such as gathering relevant Behavior Rating Scale information in order to validate findings in areas of processing (e.g. Executive function, attention) and academics (e.g. Learning Problems, Adaptive behavior).

It is also recommended in the San Mateo County SELPA that the student being considered for SLD eligibility meet the SELPA approved academic threshold (see Section 7) in one or more of the eight IDEA SLD eligibility categories.

(see San Mateo County SELPA Appendix Form B - 1 Worksheets / Forms Documents *San Mateo County SELPA Pattern of Strengths and Weakness (PSW) Documentation of SLD Eligibility Form)*

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Section 9

Ruling Out Exclusionary Factors

Exclusionary Factors

California Education Code requires that the assessment team examine and exclude specific factors as being the primary cause of the student's specific learning disability. Education Code specifically states:

Specific learning disabilities do not include learning problems that are primarily the result of:

- visual, hearing, or motor disabilities,
- intellectual disability,
- emotional disturbance,
- environmental, cultural, or economic disadvantage,
- limited school experience,
- poor school attendance, or
- lack of appropriate instruction in reading or math.

When utilizing the San Mateo County SELPA *PSW* framework for determining if a student meets eligibility criteria as having a *Specific Learning Disability,* school psychologists and IEP teams must ensure that they thoroughly take into consideration all potential factors that could be the primary reason the student is experiencing academic difficulties. It is important to note that a student exhibiting some "exclusionary factors" in of themselves does not necessarily preclude a student from being identified for special education under the category of *Specific Learning Disability (SLD).* Rather, it is the role of the assessment team to determine if the student manifests a disability as evidenced by a *pattern of strengths and weaknesses (PSW),* and the academic weakness(es) are primarily due to a disability versus the presence of adverse factors.
(see Appendix B – 7 *Worksheets / Forms Documents Exclusionary Factors Worksheet*).

Note: It is required that school psychologists complete the above form ***Exclusionary Factors Worksheet*** for any student in a category where the district has been identified by the California Department of Education as ***Significantly Disproportionate*** in the identification of the student as having a ***Specific Learning Disability (SLD).*** It is highly recommended that this tool be utilized with all students being assessed as having a ***Specific Learning Disability (SLD).***

*Adapted from *Culture-Language and Interpretive Matrix* (Flanagan et al., 2013)

Section 10

Cross-Battery PSW Assessment Considerations for Specific Populations

Assessment of Multilingual English Learners (ELs)
Cross Battery Approach for Assessment of Multilingual English Learners

When determining whether a multilingual English learner student meets eligibility requirements for Special Education under the classification of Specific Learning Disability (SLD), additional considerations must be taken.

Many of the characteristics of acquiring a second language may also mask those of a *Specific Learning Disability (SLD).* Careful consideration must be taken when determining SLD eligibility of multilingual English learners. The *pattern of strengths and weaknesses* assessment process using a cross battery model helps to assess or better be able to distinguish a learning disability from a language difference.

(see Appendix A - 3 Reference Documents *Comparison of Language Differences Versus a Learning Disability).*

The San Mateo County SELPA requires that **school psychologists incorporate *The Cultural-Language and Interpretive Matrix (C-Lim)*** when assessing a multilingual student that is an English learner in conjunction with the Cross Battery: Dual Discrepancy/Consistency Method (Flanagan et al., 2013) and its accompanying software.

There are other important considerations regarding language of assessment for each part of the assessment, who should administer the assessments, which tools should be used, etc.

Legal Requirements for Assessing Multilingual English Learners

- Assessment materials and procedures used for the purposes of assessment and placement of individuals with exceptional needs are selected and administered so as not to be racially, culturally, or sexually discriminatory, the materials and procedures shall be provided in the pupil's native language or mode of communication, unless it is clearly not feasible to do so (EC 56320(a) & 56001(j); Section 1412(a)(6)(B) of Title 20 of the United State Code).

- Assessments shall be administered by qualified personnel who are competent in both the oral or sign language skills and written skills of the individual's primary language or mode of communication and have a knowledge and understanding of the cultural and ethnic background of the pupil. If it clearly is not feasible to do so, an interpreter must be used, and the assessment report shall document this condition and note that the validity may have been affected. CCR Title 5: 3023

Based on this regulation, if it is "not clearly feasible" to utilize an assessor that speaks the student's native language, an interpreter must be used. The same standard most likely would be held for being "not feasible" in this statute as above. For a common language in California, such as Spanish, lack of not being able to locate a qualified assessor in the native language (this includes contracting outside the district), most likely would not meet the "not feasible" standard.

Interpreters/translators should be trained or made familiar with assessment tools prior to assessing a student. The regulations indicate that the assessor (or the interpreter) be fully bilingual in English and the native language). It is important to go over key assessment terms, student background, etc. prior to the assessment. Conversely, it is also very important to debrief with the interpreter after the assessment to determine if there were any interpretation questions, difficulties or anomalies.

In some situations, if there are no assessment tools available in the student's native language, the assessor or interpreter may need to interpret the English test into the native language. This may not yield fully valid assessment results; however, this may still provide information regarding the student's pattern of strengths and weaknesses.

Note: The multi-disciplinary assessment report must indicate if a test norm was violated and/or if an interrater was used and how.

Based on a review of the literature and opinions offered by OSEP, the standard for "feasibility" is high and the lack of feasibility has generally been interpreted to mean that there are no assessors or interpreters available in the student's native language or there are no assessment tools available in the student's native language. This may require that districts contract with outside providers to ensure the appropriate assessment of the student. Native language is interpreted to be the students first language at birth (not what the assessor considers to be the primary academic language at the time of assessment).

The assessor may engage in initial native language assessment such as administering a *language dominance* tool to determine the stronger academic language of the student at the time of assessment, then engage in full assessment in English, then run the scores through the XBASS/ C-Lim in order to determine what other types of native language assessments may be needed to ensure second language factors are accounted for. This would meet the requirement to engage in "some level" of native language assessment. The recommended best practice is to assess first in English, and then engage in native language cross-battery assessment in any areas of weakness (Butterfield, 2018; Ortiz, S. presentation at Santa Barbara County SELPA, 2017).
See **(Appendix B – 8 Worksheets / Forms Documents *San Mateo County SELPA Pattern of Strengths and Weaknesses Assessment Process for Multilingual English Learners Chart*).**

Resources for Guidance in Assessing Multilingual English Learners

The following other resources are available for school teams when making these decisions:

- United Framework for the Assessment of Bilingual Students http://www.bilingualassessment.org
- San Mateo County SELPA Guidelines for English Language Learners
- *California Practitioners' Guide for Educating English Learners with Disabilities*

available at *https://www.cde.ca.gov/sp/se/ac/documents/ab2785guide.pdf*

Assessment of African American Students Using a Cross-Battery PSW Model

Based on the Larry P. vs. Riles ruling in 1979, schools in California cannot use I.Q. tests with African-American students for any special education purposes. Therefore, LEAs are required to use alternative means of assessment when determining an African-American student's eligibility for special education (Evans-Pongratz & Yaklin, 2006).

There have been recent interpretations by the California Association of School Psychologists (CASP) and the California Department of Education (CDE, 2023) offered regarding whether this applies to students that are suspected of having a *specific learning disability (SLD).* At this time, it is the position of the San Mateo County SELPA that no formal I. Q. tests shall be administered when engaging in the assessment of African American students that are suspected of having a SLD.

The San Mateo County *pattern of strengths and weakness (PSW)* assessment model for SLD identification does not require the use of a Full Scale I.Q. score but rather asks assessment teams to determine whether the student has an Otherwise Normal Cognitive Ability Profile (ONCAP), which can be inferred from various measures which assess separate processing areas.

The following verbiage take from the California Association of School Psychologist website is recommended for documentation of the PSW process in a multi-disciplinary report for students that are considered in the category of "African American":

> "The following section will explore student's various cognitive abilities through the basic processing areas identified in C.C.R 3030 (b)(10) to answer the referral questions and to determine if there is a pattern of strengths and weaknesses that may be impacting a student's educational performance."

Specifically, when utilizing the San Mateo County SELPA's PSW framework to determine if an African American student meets eligibility criteria as manifesting a *specific learning disability (SLD)*, the same procedures utilized for non-African American students shall be followed; however, standardized tests of ability shall not be included. Assessment teams shall utilize one of the two cross-battery frameworks specified in this manual: the XBA and Dehn. The difference will be that school psychologists shall utilize the alternative sources of data they have collected in each of the areas of processing with the web-based programs in-order -to inform if the student manifests a pattern of strengths and weaknesses. This determination will help guide whether or not the student meets eligibility criteria as having a *specific learning disability.* Included in the appendices is a list of assessment tools by processing category that are appropriate to utilize when assessing African American students.

(see Appendix A - 4 Reference Documents *Assessment of African American Student Reference Chart)*

When assessing African-American students for any special education eligibility category, assessment teams are referred to the California Association of School Psychologists website at https://casponline.org/larry-p-assessments-and-related-issues-faq/

https://casponline.org/pdfs/publications/larryp/7. CDE_larry_p_memo for letter.pdf

Tools that Cannot be Used for Assessment of African American Students:
Latest Guidance from the California Department of Education:
https://casponline.org/pdfs/publications/larryp/7. CDE_larry_p_memo for letter.pdf

CASP October 2023 Guidance

Diagnostic Center North: Culturally Responsive Assessment
http://www.dccde.ca.gov/resource/crt.html

Assessment of Private School, Home School and Independent Study Students using a Cross-Battery PSW Assessment Model

When a request is made for a student attending private school, home school or independent study to receive a psychoeducational evaluation as a result of a suspected SLD, assessment teams must work with the student's school and/or parent/guardian to gather information in order to formulate a clear reason for referral. It would behoove school-based assessment team members to provide the student's school officials or parent with general information regarding the PSW assessment model to assist the student's teachers (that may be the parent) in providing relevant information to support the decision to move forward with an assessment.

Assessment teams would do well to gather data on the student's academic performance in relation to his peers and/or classmates or other available comparative data, when available. It would also be beneficial to collect information on whether the student has received any interventions related to the area(s) of concern. If no formal interventions have been used (this may be the case with a student home schooled), assessment professionals may assist the student's educators or parent/guardian in determining ways to address the areas of concern, prior to considering the student for special education eligibility. It should be noted, however, that a district may not deny a request for special education assessment, simply due to a student's lack of exposure to research-based interventions (Link - Office of Special Education and Rehabilitative Services Memorandum dated 1/21/11).

When an assessment is initiated, a student should be evaluated in all areas of the suspected disability. It is recommended that multi-disciplinary teams use the information gathered

regarding the student's suspected strengths and weaknesses to complete to complete the ***Multi-Disciplinary Assessment Team SLD*** **Cross Battery Planning Tool** .
(see Appendix B – 4 Worksheets / Forms Documents *Multi-Disciplinary Assessment Team SLD* Cross Battery Planning Tool).

In terms of academic assessment, it would be appropriate for evaluators to assess the student's performance using standardized academic achievement tests. At times, there may be progress monitoring data; however, this may not always be available. Teachers and/or parents would most likely be able to provide grade level assessments which may include report cards, assessment grades and/or work samples. Additionally, it is required by law that a psychologist and/or another relevant assessment professional complete a structured observation of the student in an academic setting to confirm areas of strengths and/or weaknesses. This may have to be conducted at the home of the student in the case of a student that is home-schooled.

CCR Section 3030; Title 34 of the CFR 300.310 and 300.311

Section 11

Triennial Review Reevaluation Determination and PSW

Cross-Battery PSW Process for Triennial Review Reevaluation

When conducting a triennial/reevaluation assessment using the PSW Model, there are several considerations. It is most likely that an assessment team will have a strong basis to form a hypothesis regarding the student's areas of strengths and weaknesses, as previous standardized testing has already been completed.

Taking into consideration that the San Mateo SELPA is recommending that member districts now utilize this cross-battery PSW Model as the model for identification of students with a Specific Learning Disability (SLD), including triennial/reevaluations. This is regardless of the model used during the previous evaluation for SLD eligibility purposes. Therefore, if the student was previously found eligible under the discrepancy model, it is now recommended that the assessment team now utilize the cross-battery PSW model for the student's current triennial/reevaluation.

Continued Eligibility Under the Category of SLD
If the IEP team believes the student continues to be eligible for special education under the eligibility category of SLD, the team shall document the present levels of academic achievement and related developmental needs that indicate the student continues to meet criteria for the eligibility of SLD and include the *San Mateo SELPA Pattern of Strengths and Weakness Documentation of Eligibility Form* (**see Appendix B – 1 Worksheets / Forms Documents *San Mateo SELPA Pattern of Strengths and Weakness Documentation of Eligibility Form*).**

No Further Assessment is Deemed Needed at Triennial Juncture
There are times that an assessment team, based on a review of the data, determine what additional data, if any is needed to determine eligibility, present levels, need for special education and additions or modification to the IEP. If the district determines that no additional data is needed, they must notify the parents. In such an event, the district is not required to conduct the reassessment unless requested by the parents of the pupil. If it is agreed that no further assessment is necessary, or just updated academic achievement assessment is needed (this should be documented via the IEP Triennial Review Worksheet). If it is determined that no new assessment, or partial assessment (such as academic only) will be conducted, the assessment team lead shall complete a ***Triennial Review Reevaluation Determination*** form available in SEIS.

Education Code section 56381(b); 56381(d)

"If no new assessment will be conducted, the assessment team lead should complete a *Triennial Review Reevaluation Determination* …" Education Code section 56381(b) requires IEP teams and other qualified professionals to, based on a review of data, determine "what additional data, if any is needed to determine" eligibility, present levels, need for special education, and additions or modifications to the IEP. Section 56381(d) states that if the individuals determine that no additional data is needed, they must notify the parents. In such an event, the district is not required to conduct the reassessment "unless requested by the parents of the pupil." We are not familiar with the referenced document, but it should account for the possibility of the

parents requesting reassessment in spite of the district's determination that one is not necessary.

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Appendix A

Reference Documents

Standardized Academic Assessment Tools Cross Battery Sub-Tests Chart

*Note that this is not an exhaustive list of academic assessments. Refer to XBASS Test List for those not listed below.

DOMAIN	TEST	SUBTESTS
Oral Expression	WIAT-IV	Expressive Vocabulary, Phonemic Proficiency, Oral Expression
	KTEA-III	Oral Expression
	WJ-IV	Sentence Repetition
Listening Comprehension	WIAT-IV	Receptive Vocabulary, Listening Comprehension, Oral Discourse Comprehension
	WJ-IV	Story Recall, Following Directions, Oral Comprehension. Understanding Directions
	KTEA-III	Listening Comprehension
	Woodcock Reading Mastery Test	Listening Comprehension
Written Expression	WIAT-IV	Alphabet Writing Fluency (grades 1- 3) Spelling *(included in composite score)* Essay Composition (grades 3-12) Sentence Combining
	WJ-IV	Writing Fluency, Writing Passages Spelling *(included in composite score)*
	KTEA-III	Written Expression Spelling *(included in composite score)*
	PIAT-R / NU	Written Expression Spelling *(included in composite score)*
	TOWL-4	Vocabulary Spelling Punctuation Logical Sentences Sentence Combining Contextual Conventions Story

		Composition
	FAW (Feifer Assess of Wrtg)	10 Various Subtests measuring all aspects of writing; optional composition index
Basic Reading Skills	WIAT-IV	Early Reading Skills (grades 1-3) Word Reading, Orthographic Fluency, Decoding Fluency Pseudoword Decoding
	WJ-IV	Letter Word Identification, Word Attack
	KTEA-III	Letter Word Recognition, Phonological Awareness, Nonsense Word Decoding
	PIAT-R / NU	Reading Recognition
	Test of Word Reading Efficiency (TOWRE)	Sight Word Efficiency Phonetic Decoding Efficiency
	Woodcock Reading Mastery Test	Phonological Awareness Letter Identification Word Identification Word Attack
	WRAT-4	Word Reading
	PAL-II	Pseudoword Decoding. Morphological Decoding. Find the True Fixes Sentence Sense
	FAR	Nonsense Word Decoding, Irregular Word Reading Fluency
Reading Comprehension	WIAT-IV	Reading Comprehension
	WJ-IV	Passage Comprehension
	KTEA-III	Reading Comprehension
	Woodcock Reading Mastery Test	Passage Comprehension
	FAR	Silent Reading Fluency: Comp, Semantic Concepts, Word Recall, Morphological Processing (Print Knowledge for very young children)
Reading Fluency	WIAT-IV	Oral Reading Fluency
	WJ-IV	Sentence Reading Fluency, Oral Reading

	KTEA-III	Word Recognition Fluency Decoding Fluency
	Gray Oral Reading Test	*Scores for rate /accuracy / fluency*
	Woodcock Reading Mastery Test	Oral Reading Fluency
	FAR	Irregular Word Reading Fluency, Verbal Fluency
	Test of Silent Word Reading Fluency	*Scores for word reading fluency*
Math Problem Solving	WIAT-IV	Math Problem Solving
	WJ-IV	Applied Problems. Quantitative Concepts, *Number Matrices*
	PIAT-R / NU	Mathematics
	Keymath-3	Concepts (5 subtests), Foundations of Problem Solving, Applied Problem Solving
	Test of Mathematical Abilities (TOMA-3)	Mathematical Symbols and Concepts, Mathematics in Everyday Life, Word Problems
	Test of Early Mathematics Ability (TEMA-3)	Math Concepts
	KTEA-3	Math Concepts, Math Applications
	FAM (Feifer Assess of Math)	19 subtests total: Perceptual Estimation Skills, Linguistic Math Concepts, Core Number Sense and Development
Math Calculation	WIAT-IV	Numerical Operations, Math Fluency – Addition, Math Fluency – Subtraction, Math Fluency- Multiplication
	WJ-IV	Calculation, Math Facts Fluency
	Keymath-3	Addition and Subtraction, Algebra, Data Analysis and Probability, Geometry, Measurement,

		Mental Computation and Estimation, Multiplication and Division, Numeration
	KTEA-3	Math Fluency, Math Computation
	TOMA-3	Computation
	FAM (Feifer Assess of Math)	19 subtests total: Fact Retrieval, Numeric and Spatial Memory

*Note: Curriculum Associates has developed a standardized version of the Brigance Comprehensive Inventory: "The **BRIGANCE CIBS II Standardized** features reading, writing, and math standardized assessments in one convenient inventory "(curriculumassociates.com)". The website currently does not provide information on specific domains/subtests.*

Assessment of African American Student Reference Chart

I. CHC Category Larry P. Appropriate Tools for Assessment of African American Students

Larry P Assessment Tools: CHC

Gc Comprehension-Knowledge	Gf Fluid Reasoning	Glr Long-Term Storage and Retrieval	Gsm Short-term Memory	Gv Visual Processing	Ga Auditory Processing	Gs Processing Speed
• D-KEFS • FAR • K-TEA • NEPSY • TAPS • TOC • TOD • WIAT • WJ-ACH • WJ-OL • WRMT	• D-KEFS • FAM • FAW • K-TEA • NEPSY • TOD • WIAT • WJ-ACH	• ChAMP • CTOPP • D-KEFS • FAR • K-TEA • NEPSY • TOD • TOMAL • WJ-OL • WRAML • WRMT	• CTOPP • D-KEFS • FAM • FAW • NEPSY • TAPS • TOD • TOMAL • TVPS • WJ-OL • WRAML	• ChAMP • D-KEFS • FAR • FAM • MVPT • NEPSY • TOD • TOMAL • TVPS • VMI • WRAML	• CTOPP • FAR • K-TEA • NEPSY • TAPS • TOD • WIAT • WJ-OL • WRMT	• D-KEFS • FAR • FAM • FAW • K-TEA • NEPSY • TOC • WIAT • WJ-ACH

II. Some Larry P. Assessment Tools for African American Students Recommended by CASP

Assessment Tool	Age / Grade
BADS - Behavioral Assessment of Dysexecutive Syndrome Brief Test of Attention	8-89
CAS - Cognitive Assessment System Rey-Osterrieth Complex Figure Test Children's Memory Scales Continuous Performance Test	6 - 89
D-KEFS - California Verbal Learning Test (included in the D-Kefs) / Delis-Kaplan Executive Function System	8-89
RAVLT TPT -Rey Auditory Verbal Learning Test Tactile Performance Test	3- 65
TVPS – 4 – Test of Visual Perceptual Skills Fourth Edition	5-21
WCST - Wisconsin Card Sorting Test	6 -89
WMS – IV – Wechsler Memory Scale	16 – 90:11
NEPSY - A Developmental Neuropsychological Assessment	3 -16
SCWT - The Stroop Color and Word Test	15 -99
WRAML-2 - Wide Range of Assessment of Memory and Learning	5 -90

Comprehensive Matrix of Processing-Achievement Relations, Evaluating Significance (COMPARES)

Developed by Ventura County SELPA

The Comprehensive Organizational Matrix of Processing-Achievement Relations, Evaluating Significance

The COMPARES

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Introduction

The Comprehensive Organizational Matrix of Processing-Achievement Relations, Evaluating Significance (COMPARES) is intended to summarize the known relationships between cognitive processing areas and academic achievement areas for California school assessment teams. Based on a review of existing literature, the COMPARES identifies the most likely psychological processes involved in each area of academic achievement. The COMPARES is an integral tool in the Glenn County SELPA PSW Model, to be consulted at several key points in the assessment process, as outlined in the Overview [see section
5].

Processing Areas Are Related To One Another Since They All Act in the Same Brain

There is overlap across and among processes, as no part of the brain works in complete isolation. As described in Dehn's *Essentials of Processing Assessment* (2014a): "Multiple brain structures, systems, and processes are involved in any one function, and the same structures and processes participate in more than one functional system. The results are that overall mental processing is greater than the sum of its parts and that measuring cognitive processes in isolation is challenging" (p. 46).

Despite this challenge, school psychologists, researchers, and test publishers in the field do measure cognitive processes as if they were separate entities. The COMPARES thus organizes the research by processing area but with the presumption that the practitioner using the COMPARES will bring to bear the knowledge and understanding of these relationships among processing areas when interpreting the existing research base.

For example, the close relationship between attention and executive functions would suggest that if a strong significant relationship between executive functions and a particular academic area is identified in the COMPARES, but research has not (yet) identified a significant relationship between that academic area and attention, the practitioner may wish to go beyond the COMPARES and consider whether observation and assessment support the possibility that the student's attention is in fact impacting functioning in the area of concern. The fact that a related processing area has been documented to have an impact adds credence to this interpretation.

Certain Processing Areas Have Stronger Relationships With Certain Academic Areas

Many processing areas have a degree of relationship with many types of academic learning. However, some processes have more influence on particular academics than others, are the best predictors of success in an academic area, and have the strongest correlations with a given academic skill, as empirically identified by research. The COMPARES provides the evaluation team with a starting point when considering academic skill weaknesses and possible related psychological processes that might be impacting performance. The COMPARES also provides the team with a reference tool to consult once evaluation is underway, to confirm that an established, research-based link has been found between a particular processing area and a particular academic achievement area.

Academic areas also have varying degrees of relation to one another. For example, reading decoding and reading fluency are known to have a high degree of inter-relations (Benson, 2008). For this reason, in a case where a student may show impaired reading fluency (as well as struggling with decoding), the processing area research related to decoding may also apply to reading fluency, even if that processing area is not (yet) explicitly tied to reading fluency through empirical study. The team will consider these types of inter-relationships between academic areas when using the COMPARES.

The literature review that provides the foundation for the COMPARES is available on the VC SELPA website in a document of Annotated Bibliographic Citations (ABC). In addition, a version of the COMPARES that includes brief citations included in each box of the grid is also available online, for practitioners who want an at-a-glance overview of relevant research pertaining to the rating in each box.

Processing Areas and Sub-Areas in the COMPARES

The processing areas featured in the COMPARES reflect categories specified in California's Education Code, including auditory processing, visual processing, cognitive abilities (association, conceptualization, expression), sensory-motor skills, and attention. These categories were designated in an era that predated the fMRI and the ability to directly observe processing occurring in the brain. Recognizing that newer "brain-based" processing area categories rooted in the rapidly-advancing science of neuropsychology do not neatly correspond to the specified Education Code categories, the COMPARES further divides the research literature into sub–areas of the basic California cognitive processing areas, using the basic processing areas from the Education Code as general headings.

These sub-areas reflect categories found in the cognitive processing research literature, and align more precisely with brain-based findings than do their broader, more general counterparts. Examples of sub-areas might include phonological processing (as part of the broader area of auditory processing), orthographic processing (as part of the broader area of visual processing), and graphomotor processing (as part of the broader area of sensory- motor skills). Sub-areas also correspond with broad or narrow abilities as defined in Cattell- Horn-Carroll (CHC) theory, and as measured on the Woodcock Johnson Tests of Cognitive Abilities, an assessment instrument that has dominated the processing-related research arena in recent years.

The sub-areas give greater significance to the term Specific Learning Disability, as the deeper level of understanding associated with identifying the particular cause of a student's disability allows teams to address the area of deficit more directly. For example, saying that

a student has an "auditory processing deficit" when auditory memory and auditory reasoning are intact can be misleading, but identifying a "phonological processing deficit" under the general category of auditory processing helps teams to pinpoint the area of concern and design appropriate intervention. Using this finer level of clarity leads to greater clarity of thinking and a finer level of intervention.

Working definitions of the processing areas and sub-areas may be found in the COMPARES glossary. While there appears to be greater consensus than in the past in the field of educational and cognitive psychology concerning definitions of these terms, at this writing, debate still continues, informed by the ever-changing research base.

A Special Note About the "Cognitive Abilities" Category

When California Education Code lists "Cognitive Abilities" as a processing area, the text explicitly includes association, conceptualization, and expression. Definitions for these and other processing-related terms are found within the glossary, but the interpretation of the simple equivalents to these terms in the assessment vernacular would equate association with "memory" of all kinds, conceptualization with "fluid reasoning" and "problem-solving," and expression with "oral expression" and "language processing." These are also terms that are used by major test publishers to define the factors that are being measured during a psychoeducational battery.

In addition, the Education Code definition of "Cognitive Abilities" does not appear to specify exclusion of other cognitive abilities that might be related to those processing areas that are specifically mentioned. Therefore, the Cognitive Abilities section of the COMPARES includes the processing abilities of Rapid Automatic Naming (RAN) (which taps into long- term memory/storage and retrieval), Executive Functions (a "gateway" processing area that helps the brain organize and use all of the other processing areas), and Processing Speed/Perceptual Speed (measured as such during research projects and variously covering visual, auditory, or sensory-motor speed).

Studies on "Attention" vs. Studies on ADHD

The bulk of the current research literature related to attention focuses on students with a diagnosis of ADHD as representative of students with attentional processing deficits. Using students with a DSM diagnosis makes it convenient for researchers since test subject criteria for inclusion in a study are clearly defined. However, interpreting these studies to ascertain whether a student's attention was the pure and primary determining factor in results -- versus whether another aspect of behavior associated with ADHD (e.g., impulsivity or hyperactivity) might have impacted results -- is typically challenging.

As research emerges that evaluates attention by component parts (for example, focused attention, sustained attention, selective attention, alternating/shifting attention, or divided attention), it would be anticipated that a greater clarity of connection will emerge between the attentional components and the academic achievement areas.

At this point in the evolution of the research base, there is a lack of solid research demonstrating strong associations between attention and several academic achievement

areas. However, as assessment team members are aware, based on clinical experience and many hours of classroom observation, attention is a foundational processing area, and can impact every academic area when a student is not able to be engaged.

Executive Functions (EF)

A wide range of definitions of EF exist in the research. In recent years, there has been an increase in research on executive functions, yet study authors may operationally define EF differently. For purposes of the COMPARES, research was included that overtly uses terms such as "executive functions," "executive functioning," "executive processes," "executive memory," "executive working memory," "central executive," and "metacognition." The summary of these findings is located in the COMPARES boxes headed, "Executive Functions, Executive Memory." A general definition such as, "An array of mental processes responsible for regulating cognitive functions during purposeful, goal-directed, problem- solving behavior" is useful for establishing shared understanding of the concept (Dehn 2014a, p. 27). An evaluation of the components of executive functions in the field reveals a variety of ways to divide the term into component parts, suggesting that the practitioner interested in understanding Executive Functions' relationship to academic achievement areas should also consult COMPARES categories that include Working Memory, Fluid Reasoning, Rapid Naming Skills, and Attention, all of which either comprise part of the definition of executive functions and/or are highly related with executive functions, depending on whose model you are using (Dehn, 2014a; Flanagan et al, 2013; McCloskey & Perkins, 2013).

Language as a Process, Language as an Academic Skill

Language has the special distinction of being both a "process" and an "academic skill." A student may have a neuropsychologically based weakness in processing incoming language or in expressing herself through language, and/or a student may have an academic skills weakness in Listening Comprehension and/or Oral Expression that could be caused by a variety of cognitive processes (not just a weakness in language processing, per se) (Dehn, 2014a). Students with these various challenges who are eligible for special education services may be identified as having a Specific Learning Disability, and/or they may be identified as having a Speech/Language Impairment. Either way, because of the unique status of language, there are language-related categories on both axes of the COMPARES. In several cases, where a grid intersects that would show where language processing is related to an academic achievement area related to language, there are no citations or ratings, since it is evident that the two areas are overlapping. Very few studies attempt to evaluate whether language processing is related to Listening Comprehension and Oral Expression, since it is implicit that their relationships are strong and not mutually exclusive.

The "crystallized knowledge" skills that include possessing general information, comprehending the world around, and maintaining a trove of vocabulary words are not included in the COMPARES as processing areas per se, since they are not thought to involve processing so much as a store of knowledge, to be "used" by other processing areas during learning (Dehn,2014a). However, because many research studies use vocabulary as an indicator of language skills, there are some references to studies involving

crystallized knowledge, vocabulary, and "Gc" within the COMPARES, found in relation to the language categories.

Processing Speed

Processing speed is a construct that is not possible to measure directly during a neuropsychological evaluation, unless there is access to equipment that can image the internal workings of the electrical connections in the brain. That is, processing speed is measured at the "output" level, not at the actual speed of a student's thinking, but by how quickly a student can respond using hands or voice. Current research studies measure processing speed by how quickly and accurately a student can perform simple, repetitive tasks, whether using a pencil or responding aloud during a rapid naming task. The COMPARES lists the relationship ratings of processing speed under the Cognitive Abilities sections, although speed of visual processing, speed of auditory (and language) processing, and speed of sensory-motor processing are also listed under their respective sections, as well, to acknowledge that there may be differences among different types of speeded responses, depending on the modality involved. In general, the research base does not distinguish between these modality differences in processing areas, although a few studies specify, for example, "speed of visual processing."

Rapid naming tasks are used by some researchers to measure processing speed, even though other researchers report these are primarily measures of long-term retrieval.

Despite falling under the general category of rapid automatic naming, rapid naming tasks can vary in which modalities are involved. Some tasks involve visual input with less language and memory load, where a student quickly reads letters or numbers, some tasks may involve visual input with a greater language and memory load, where a student names colors and pictures, whereas other tasks involve retrieval fluency (associational fluency, verbal fluency), tapping more significantly into speed of long-term memory retrieval (and language) to create a list based on a category (e.g., animals, food, girls' names).

Processing speed, which involves encoding, retrieval, and other working memory functions, increases with maturity, and exerts a direct, positive effect on working memory capacity (Evans et al., 2001). The more automatic a task is and the faster it can be completed, the less is the stress on working memory, and the more reserves of working memory are available for processing. Because of their interwoven characteristics, processing speed has an exceptionally strong relationship with working memory (Dehn, 2008).

Because of the diversity of methods of measuring processing speed used in the literature and available in current assessment instruments and its overlap with other processing areas, the practitioner measuring a student's processing speed should be aware of which modalities are involved in each type of task during testing, how these particular modalities relate to the student's hypothesized strengths and weaknesses and to other processing areas, and which part of the COMPARES to consult in order to best understand the scores.

The "Comprehensive" in the COMPARES

The use of the term "Comprehensive" – the initial letter in the COMPARES acronym -- refers to the grid being inclusive of all of the processing areas and academic achievement areas specified in Educational Code. It is not intended to suggest that the COMPARES includes every research study that has been published in the past few decades. Instead, it must be understood that the research underlying the COMPARES reflects the intensive work of a team of school psychologists and graduate students over a period of many months to locate and review selected, relevant, available studies and bibliographies

compiled by other researchers, to represent what is current at this point in time. While the COMPARES will be updated over time, it is the responsibility of each professional to consider relevant new research in the field as it is published and becomes available.

Clinician Judgment and Experience When Using The COMPARES

The COMPARES should not be used to exclude the possibility that, in an individual student, a particular processing weakness might affect academic performance in a way that is not consistent with the known research findings, which look at majority effects and levels of significance. Because all brains differ, individual profiles may differ from the norm.
Clinician judgment and experience are essential in interpretation.

When To Use The COMPARES

- Use the COMPARES in the initial stages when the initial suspicion appears that a student may have a learning disability, to see if observed processing weaknesses correspond with observed academic weaknesses.
- Use the COMPARES when planning the assessment, to assist the team in knowing which processing areas to evaluate, based on the referral question.
- Use the COMPARES during assessment as the team revises and fine tunes the hypothesis, to help guide additional areas to be evaluated.
- Use the COMPARES when the assessment is complete, to confirm that processing area strengths and weaknesses correspond with academic achievement area strength and weaknesses.

How To Use The COMPARES

To begin, ask these questions: Based on the student's referral reason, which academic areas are suspected to be weak? Which processing areas are suspected to be weak?

Using the Overview of the COMPARES (page 95), locate the page numbers you will need to consult to look up the relationships between processing and academic areas.

Locate the suspected academic areas in the COMPARES. Scan down the relevant column(s) and, using the COMPARES Key of Rating Symbols as a guide (page 94), see which processing areas have been found to be most closely associated with these academic areas. Do these processing areas make sense with what you know of the referral? Are these processing areas observed weaknesses for the student, based on what team members have shared?

Using the COMPARES, plan the assessment to include evaluation of processing areas related to the suspected area(s) of academic weakness. If suspected academic and processing areas do not appear related, engage in additional consultation with team members and additional observation of the student to refine the hypothesis, and re-visit the COMPARES. Continue to consult the COMPARES as your evaluation unfolds.

Processing Development Changes as Students Grow

The COMPARES includes "Developmental Notes" to remind users that, although all of the processes begin to develop around the same time in early childhood, the pace of development varies by processing area, and the primary process a student relies on for a particular task may change over time (Dehn, 2014a) Factor loadings (indications of what a subtest is primarily measuring) for some processing subtests change over the course of development. For example, a visual-spatial subtest designed to

measure fluid reasoning in older students may actually measure visual-spatial ability in a younger student more than it measures fluid reasoning. The test performance of younger students typically relies on fewer processes than that of older children. Also, when an essential process is underdeveloped at the time of testing, it may have undue influence on subtests designed to assess other processes. Thus, a young student's limited ability to sustain attention can have a strong influence across much of a cognitive battery.

When considering which processes relate to a student's academic achievement performance, the student's developmental stage and the timing of the maturation of processing areas should be carefully considered. Where research supports the finding of a difference in significance between a processing-achievement duo based on age differences, the COMPARES may list two separate numbers, one for each age group studied. The practitioner should be sure to consult the appropriate rating for the student's age group.

How to Interpret the COMPARES Key of Rating Symbols

The Key uses a five-point scale to rate the relationship between processing areas and academic achievement areas, based on existing reviewed research.

- Relationships that have a rating of "four" will suggest to the practitioner that there is strong convincing evidence of processing-achievement relations.
- Scores of "three" suggest convincing evidence, but may not be unanimous among researchers, and/or may not have the explicit research base that a score of "four" would imply.
- Relationships marked with a "two" would need to be carefully considered by practitioners; if a finding of a more significant processing-achievement relationship for a particular child than the COMPARES research supports is to be considered, the team would need to carefully document the evidence.
- Relationships marked with a "one" indicate either weak or little relationship, or studies done without strong foundations.
- A null sign or blank in the COMPARES indicates that no research was discovered that supports the relationship at this point in time.
- On a few occasions, the rating differs depending on a student's age, which is noted.
- On some occasions, two ratings are listed because the relationship was judged to fall between two ratings, rather than clearly aligning with one.

How Research Was Evaluated for Inclusion in the COMPARES

The initial intention of the review of literature for the COMPARES was to limit the review to published peer-reviewed journal articles in the field of educational psychology and neuropsychology. However, it quickly became apparent that additional sources would need to be considered to cover the broad research base of processing-achievement relations.

Thus, journal articles from related fields and specialized areas were also considered, such as speech/language pathology, occupational therapy, optometric science, and the burgeoning field of fMRI studies. Recent texts authored by well-respected researchers in the field were also examined, as these well-documented works integrated and summarized findings from many more studies than it would have been possible to review with the COMPARES team.

In addition, while original studies using an experimental or quasi-experimental design were initially targeted, researchers also discovered a wealth of information available in studies using other research designs including well-constructed correlation studies and, of great assistance, synthesis/review works, particularly those that used a meta-analytical approach. No single-subject studies were used to draw a conclusion, although some single-subject studies were reviewed for background information and case study illustration. The Annotated Bibliographic Citations (ABC), available online, describe each study in more detail.

A number of studies were considered for inclusion that failed to delineate processing areas or academic achievement areas from other, linked areas. For example, in the case of academic achievement, some studies simply discussed a processing area's relationship to "Total Achievement." In these cases, the research was not able to be used for purposes of the COMPARES because it was not specific enough, with few exceptions. If a finding general to "reading" (without specifying whether it was decoding, fluency, or comprehension) or to "math" (without specifying whether it was calculation or problem-solving) was made, and by reading the research carefully it was difficult to evaluate what aspect of these academic areas was involved, then the research was not used. On occasion, a study's author might make a case for greater generalization to additional areas, and, in this case, the statement of justification was included.

Much of the processing research in recent years is based upon the Cattell-Horn-Carroll (CHC) theory (integrated with neuropsychological theory) and uses the Woodcock Johnson Tests of Abilities as the primary instrument for subject evaluation. While many CHC-based studies were reviewed for the COMPARES, an effort was also made to review studies that were not solely CHC-based, which relied on other instruments, to provide a balance of impact.

The COMPARES Key

COMPARES Key of Rating Symbols for Research Associating Processing & Achievement Areas	**Description of Relationship**
❹	**Strong convincing evidence**. Research shows a strong to very strong relationship, and is consistent. Meta-analyses may confirm the correlation between this processing area and achievement area.
❸	**Convincing evidence.** One or more research studies or meta-analyses show a strong relationship, but findings may be inconsistent or contradictory. A recognized expert in the field may state in an article or a textbook that there is a significant or relevant relationship, yet current research may not focus on the explicit connection. An fMRI study may show activation of a brain area known to be associated with a particular cognitive process while engaged in a related academic task.

❷	**Partially convincing evidence.** Some research shows a moderate or relevant relationship, but findings may be inconsistent, contradictory, or preliminary.
❶	**Unconvincing evidence.** Research shows a weak relationship, and/or is anecdotal rather than quantitative, and/or lacks peer review, and/or has few or no bibliographic citations.
ø	**No research found that shows even a weak correlation as of the publication date of this document.** If a study was found that shows "no relation," this study is cited in the annotated version of the COMPARES.

Overview of the *COMPARES*

Directions for use: The overview of the COMPARES document allows assessment teams a quick glance at the strength of the research link between the processing area and academic achievement area. Assessment teams need to examine the specific page number(s) (which are located directly to the right of the rating symbol) for the areas of question and take into consideration the other information provided within the COMPARES.

COMPARES Table

Overview of the strengths of the research based links between processing areas and academic achievement areas

4 = strong convincing evidence
3 = convincing evidence
2 = partially convincing evidence
1 = unconvincing evidence
0 = no evidence

Processing Areas	Processing Sub-Areas	Basic Reading Skills	Reading Fluency	Reading Comp	Written Expression	Math Calculation	Math Problem-Solving	Listening Comp	Oral Expression
Auditory Processing	Phonological Processing	4	3	3	2	2	2	3	3
	Auditory Memory	4	3	4	4	4	4	4	4
	Auditory Processing Speed	4	4	4	4	4	4	3	3
	Auditory Processing	3	3	3	3	0	0	3	2
Visual Spatial Processing	Visual-Spatial Processing	2	2	3	1	3	1	2	0
	Orthographic Processing	4	4	2	2	2	0	0	0
	Visual Memory	2	2	4	4	4	4	0	0
	Visual Processing Speed	4	4	4	4	4	4	0	0
Cognitive Abilities	Assocaition/Memory	4	4	4	4	4	4	4	4
	Rapid Naming Skills	4	4	2	2	3	2	0	4
	Fluid Reasoning/ Problem Solving	0	0	3	3	3	4	0	0
	Expression	3	0	3	3	0	3	3	4
	Language Processing (Crystalized Knowledge)	4	3	3	3	2	3	4	4
	Processing Speed	4	4	3	4	4	4	3	3
	Executive Functions	3	3	4	3	3	3	4	4
Sensory Motor Skills	Visual Motor, Fine Motor, Graphomotor, Sensorimotor	1	0	0	3	2	1	0	0
	Sensorimotor Memory	1	0	0	0	0	0	0	0
	Sensorimotor Speed	0	0	0	4	0	0	0	0
	Oral Motor/ Speed	2	3	0	0	0	0	0	4
Attention	Attention	1	2	2	2	3	2	2	1

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Processing Area	Processing Sub-Area	Basic Reading Skills (Decoding)		Reading Fluency		Reading Comprehension		Written Expression		Math Calculation		Math Problem-Solving		Listening Comprehension		Oral Expression	
Auditory Processing	Phonological Processing	4	96	3	96	3 1	96	2	96	2	103	2	103	3	108	3	108
	Auditory Memory	4	96	3	96	4	96	4	96	4	103	4	103	4	108	4	108
	Auditory Processing Speed	*	96	*	96	*	96	*	96	*	103	*	103	3	108	3	108
	Auditory Processing	2 3	97	*	97	3	97	3	97	⌀	103	⌀	103	3	108	2	108
Visual-Spatial Processing	Visual-Spatial Processing	2	98	2	98	2 3	98	1	98	2 3	104	1	104	1 2	109	⌀	109
	Orthographic Processing	4	98	4	98	2	98	2	98	2	104	⌀	104	⌀	109	⌀	109
	Visual Memory	2	98	2	98	4	98	3 4	98	4	104	4	104	⌀	109	⌀	109
	Visual Processing Speed	4	98	4	98	*	98	*	98	*	104	*	104	⌀	109	⌀	109
Cognitive Abilities	Association Memory	4	99	4	99	4	99	4	99	4	105	4	105	3 4	110	4	110
	Rapid Naming Skills	4	99	4	99	2	99	2	99	3	105	2	105	⌀	110	*	110
	Conceptualization and Fluid Reasoning/Problem-Solving	⌀	99	⌀	99	2 3	99	2 3	99	3	105	4	105	⌀	110	⌀	110
	Expression	3	100	⌀	100	3	100	3	100	⌀	105	3	105	3	110	*	110
	Language Processing (Crystalized Knowledge)	4	100	3	100	3	100	3	100	2	105	3	105	*	110	*	110
	Processing Speed	4	100	4	100	3	100	3	100	4	106	4	106	3	111	3	111
								4									
	Executive Functions	3	101	2 3	101	4	101	3	101	3	106	3	106	4	111	4	111
Sensory-Motor Skills	Visual Motor, Fine Motor, Graphomotor, Sensorimotor	1	102	⌀	102	⌀	102	3	102	2	107	1	107	⌀	112	⌀	112
	Sensorimotor Memory	1	102	⌀	102	⌀	102	⌀	102	⌀	107	⌀	107	⌀	112	⌀	112
	Sensorimotor Speed	⌀	102	⌀	102	⌀	102	*	102	⌀	107	⌀	107	⌀	112	⌀	112
	Oral Motor/ Oral Motor Speed	2	102	3	102	⌀	102	⌀	102	⌀	107	⌀	107	⌀	112	*	112
Attention†	Attention	1	102	1 2	102	2	102	2	102	3	107	2	107	2	113	1	113

*Please reference the COMPARES for specific information.
†Please refer to page 88 for additional information regarding Attention.
"Updated 11/2015"

COMPARES for California's Five Processing Areas, Sub-Areas, and Academic Areas

Processing Area	Sub-Area	Basic Reading Skills (aka Reading Decoding)	Reading Fluency*	Reading Comprehension	Writ-ten Language
Auditory Processing (Ga) (continued)	**Auditory Processing (Ga) including Auditory Analysis/Synthesis** **Developmental Note[1]:** Auditory processing matures early, after gradual development.	2 to 3	See "Auditory Processing and Basic Reading Skills" and "Phonological Processing and Reading Fluency"	3	3
COMPARES for California's Five Processing Areas, Sub-Areas, and Academic Areas					
Processing Area	**Sub-Area**	**Basic Reading Skills** (aka Reading Decoding)	**Reading Fluency***	**Reading Comprehension**	**Written Language**
Visual-Spatial Processing (Gv) Developmental Note[1]: Visual-Spatial Processing matures early, after gradual development.	**Visual-Spatial Processing (Gv) including Visual Analysis and Synthesis, Visual Perception, and Visual Discrimination**	2 See "Orthographic Processing" below.	2 See "Processing Speed" under "Cognitive Abilities" in relation to Reading Fluency, for studies on speeded visual processing.	2 to 3	1
	Orthographic Processing	4	4	2	2

	Visual Memory, Spatial Memory, Visual-Spatial Memory, Visual-Spatial Short- Term Memory, Visual-Spatial Working Memory	2 See also "Memory" and "Orthographic Processing" under "Cognitive Abilities."	2 See also "Memory" and "Orthographic Processing" under "Cognitive Abilities."	4 See also "Memory" under "Cognitive Abilities."	3 t o 4 See also "Memory" under "Cognitive Abilities."
	Visual Processing Speed	4 See "Processing Speed" and "Rapid Naming Skills" under "Cognitive Abilities."	4 See "Processing Speed" and "Rapid Naming Skills" under "Cognitive Abilities."	See "Processing Speed" and "Rapid Naming Skills" under Cognitive Abilities section.	See "Processing Speed" and "Rapid Naming Skills" under Cognitive Abilities section.

COMPARES for California's Five Processing Areas, Sub-Areas, and Academic Areas

Processing Area	**Sub-Area**	**Basic Reading Skills** (aka Reading Decoding)	**Reading Fluency**	**Reading Comprehension**	**Written Lang-uage**
Cognitive Abilities	**Memory including Association and Long-Term Retrieval (Glr)** **Developmental Notes[1]:** Long-Term Recall matures early, after gradual development. Working	4	4	4	4

	Memory matures late after gradual development.				
	Rapid Naming Skills	4	4	2 See also "Memory including Association & Long-Term Retrieval"	2 See also "Memory including Association and Long-Term Retrieval"
	Conceptualization and Fluid Reasoning (Gf)/ Problem-Solving **Developmental Note[1]:** Fluid Reasoning is one of the last cognitive abilities and processes to fully develop. Full Development of fluid reasoning cannot be expected until late adolescence. Fluid reasoning	Ø	Ø	2 to 3	2 to 3

	matures late, after gradual developme nt.				

COMPARES for California's Five Processing Areas, Sub-Areas, and Academic Areas					
Processing Area	**Sub-Area**	**Basic Reading Skills** (aka Reading Decoding)	**Reading Fluency***	**Readin g Compr ehensi on**	**Written Language**
Cognitive Abilities (continue d)	**Expression** **Developmental Note[1]:** Oral language matures late, after gradual development.	3	Ø See "Rapid Naming Skills," a process related to reading fluency. Both "naming facility" or "rapid automatic naming" (the ability to rapidly retrieve &associate print & sound) & expressional fluency (rapidly thinking of different ways of expressing an idea) are part of long-term storage &retrieval, & may overlap in certain ways, but are distinct skills.	3	3
	Languag e Processi ng (Crystaliz ed Knowled ge) **Developmental Note[1]:** Oral language matures late, after gradual development.	4	3	3	3

	Processing Speed **Developmental Note[1]:** Processing speed matures early after rapid development. Benson 2008: "The effect of cognitive processing speed (Gs) on reading fluency increases with age."	❹	❹	❸	❸ ❹ (for ages 8-12 & 14)
COMPARES for California's Five Processing Areas, Sub-Areas, and Academic Areas					
Processing Area	**Sub-Area**	**Basic Reading Skills** (aka Reading Decoding)	**Reading Fluency***	**Reading Comprehension**	**Written Language**
Sensory-Motor Skills	**Visual Motor, Fine Motor, Graphomotor, Sensorimotor, Sensory-Motor, Psychomotor Perceptual Motor** **Developmental Note[1]:** Fine motor processing matures early after gradual development.	❶	Ø	Ø	❸
	Sensorimotor Memory	❶ See also "Memory" under "Cognitive Abilities."	Ø See also "Memory" under "Cognitive Abilities."	Ø See also "Memory" under "Cognitive Abilities."	Ø See also "Memory" under "Cognitive Abilities."

	Sensorimotor Speed, Graphomotor Speed	Ø See "Processing Speed" under Cognitive Abilities section.	Ø See "Processing Speed" under Cognitive Abilities section.	Ø	See "Processing Speed" under Cognitive Abilities section above.
	Oral Motor/Oral Motor Speed	2 Consider referral to Speech/Language Pathologist.	3 Consider referral to Speech/Language Pathologist.	Ø	Ø
Attention† **Developmental Note[1]:** Attention matures late after gradual development.	**Attention**	1	1 to 2	2	2

COMPARES for California's Five Processing Areas, Sub-Areas, and Academic Areas

Processing Area	**Sub-Area**	**Basic Reading Skills** (aka Reading Decoding)	**Reading Fluency***	**Reading Comprehension**	**Written Language**
	Executive Functions, Executive Memory, Executive Working Memory **Developmental Note:** Executive functions mature late, after gradual development.	3 See also "Memory" under "Cognitive Abilities."	2 to 3 See also "Memory" under "Cognitive Abilities."	4	3

COMPARES for California's Five Processing Areas, Sub-Areas, and Academic Areas

Processing Area	**Sub-Area**	**Math Calculations**	**Math Problem-Solving**
In some cases, research shows that "narrow" cognitive abilities may play an important role in the prediction of math achievement – both basic math skills and problem-solving			

– even when the corresponding "broad" ability does not (McGrew & Wendling, 2010).			
Auditory Processing **Developmental Note[1]:** Auditory processing matures early, after gradual development.	**Phonological Processing (including phonemic awareness and sound discrimination, phonetic coding, phonologic memory)** **Developmental Note[1]:** Phonological processing matures early after gradual development.	2 See also "Memory" under "Cognitive Abilities."	2 See also "Memory" under "Cognitive Abilities."
	Auditory Memory, Auditory Short-Term Memory, Auditory Working Memory, Verbal Memory, Verbal Working Memory, Phonological Memory, Phonological Short- Term Memory **Developmental Notes[1]:** Working Memory matures late after gradual development.	4 See "Memory" under "Cognitive Abilities" below.	4 See "Memory" under "Cognitive Abilities" below.
	Auditory Processing Speed	See "Processing Speed" and "Rapid Naming Skills" under Cognitive Abilities section.	See "Processing Speed" and "Rapid Naming Skills" under Cognitive Abilities section.

	Auditory Processing (Ga) including Auditory Analysis/Synthesis **Developmental Note[1]:** Auditory processing matures early, after gradual development.	Ø	Ø See "Phonological Processing" above.

COMPARES for California's Five Processing Areas, Sub-Areas, and Academic Areas			
Processing Area	**Sub-Area**	**Math Calculations**	**Math Problem-Solving**
Visual-Spatial Processing (Gv) Developmental Note[1]: Visual- Spatial Processing matures early, after gradual development.	**Visual-Spatial Processing (Gv) including Visual Analysis and Synthesis, Visual Perception, and Visual Discrimination**	2 to 3	1
	Orthographic Processing	2	Ø
	Visual Memory, Spatial Memory, Visual- Spatial Memory, Visual-Spatial Short-Term Memory, Visual-Spatial Working Memory **Developmental Notes[1]:** Long-Term Recall matures early, after gradual development. Working Memory matures late after gradual development.	4 See also "Memory" under "Cognitive Abilities."	4 See also "Memory" under "Cognitive Abilities."
	Visual Processing Speed	See "Processing Speed" and "Rapid Naming Skills" under Cognitive	See "Processing Speed" and "Rapid Naming Skills" under Cognitive Abilities section.

		Abilities section.	

COMPARES for California's Five Processing Areas, Sub-Areas, and Academic Areas			
Processing Area	**Sub-Area**	**Math Calculations**	**Math Problem-Solving**
Cognitive Abilities	**Memory including Association and Long-Term Retrieval (Glr)** **Developmental Notes[1]:** Long-Term Recall matures early, after gradual development. Working Memory matures late after gradual development.	❹	❹
	Rapid Naming Skills	❸	❷
	Conceptualization and Fluid Reasoning (Gf)/ Problem-Solving **Developmental Note[1]:** Fluid Reasoning is one of the last cognitive abilities and processes to fully develop. Full Development of fluid reasoning cannot be expected until late adolescence. Fluid reasoning matures late, after gradual development.	❸	❹
	Expression **Developmental Note[1]:** Oral language matures late, after gradual development.	Ø See "Language Processing" below.	❸

	Language Processing (Crystalized Knowledge) Developmental Note1: Oral language matures late, after gradual development.	2	3

COMPARES for California's Five Processing Areas, Sub-Areas, and Academic Areas

Processing Area	Sub-Area	Math Calculations	Math Problem-Solving
	Processing Speed **Developmental Note[1]:** Processing speed matures early after rapid development.	4	4
	Executive Functions, Executive Memory, Executive Working Memory **Developmental Note[1]:** Executive functions mature late, after gradual development.	3	3

COMPARES for California's Five Processing Areas, Sub-Areas, and Academic Areas

Processing Area	Sub-Area	Math Calculations	Math Problem-Solving
Sensory-Motor Skills	**Visual Motor, Fine Motor, Graphomotor, Sensorimotor, Sensory-Motor, Psychomotor Perceptual Motor** **Developmental Note[1]:** Fine motor processing matures early after gradual development.	2	1

	Sensorimotor Memory	Ø See "Memory" under "Cognitive Abilities."	Ø See "Memory" under "Cognitive Abilities."
	Sensorimotor Speed, Graphomotor Speed	Ø See "Processing Speed" under Cognitive Abilities section.	Ø See "Processing Speed" under Cognitive Abilities section.
	Oral Motor/Oral Motor Speed	Ø	Ø
Attention† **Developmental Note[1]:** Attention matures late after gradual development.	**Attention**	❸	❷

COMPARES for California's Five Processing Areas, Sub-Areas, and Academic Areas

Processing Area	Sub-Area	Listening Comprehension	Oral Expression
Auditory Processing (Ga) **Developmental Note[1]:** Auditory processing matures early, after gradual development.	**Phonological Processing (including phonemic awareness and sound discrimination, phonetic coding, phonological memory)** **Developmental Note[1]:** Phonological Processing matures early after gradual development.	❸ See also "Memory" under "Cognitive Abilities."	❸ See also "Memory" under "Cognitive Abilities."

	Auditory Memory, Auditory Short-Term Memory, Auditory Working Memory, Verbal Memory, Verbal Working Memory, Phonological Memory, Phonological Short- Term Memory **Developmental Notes[1]:** Working Memory matures late after gradual development.	4 See "Memory" under "Cognitive Abilities."	4 See "Memory" under "Cognitive Abilities."
	Auditory Processing Speed	3 See "Processing Speed" and "Rapid Naming Skills" under "Cognitive Abilities."	3 See "Processing Speed" and "Rapid Naming Skills" under "Cognitive Abilities."
	Auditory Processing (Ga) including Auditory Analysis/Synthesis	3 See "Phonological Processing" above.	2

COMPARES for California's Five Processing Areas, Sub-Areas, and Academic Areas

Processing Area	Sub-Area	Listening Comprehension	Oral Expression
Visual-Spatial Processing (Gv) Developmental Note[1]: Visual- Spatial Processing matures early, after gradual development	**Visual-Spatial Processing (Gv) including Visual Analysis and Synthesis, Visual Perception, and Visual Discrimination**	1 to 2	Ø

	Orthographic Processing	Ø	Ø
	Visual Memory, Spatial Memory, Visual- Spatial Memory, Visual-Spatial Short-Term Memory, Visual-Spatial Working Memory **Developmental Notes[1]:** Long-Term Recall matures early, after gradual development. Working Memory matures late after gradual development.	Ø See "Memory" under "Cognitive Abilities."	Ø See "Memory" under "Cognitive Abilities."
	Visual Processing Speed	Ø See "Processing Speed" under "Cognitive Abilities."	Ø See "Processing Speed" under "Cognitive Abilities."
COMPARES for California's Five Processing Areas, Sub-Areas, and Academic Areas			
Processing Area	**Sub-Area**	**Listening Comprehension**	**Oral Expression**
Cognitive Abilities	**Memory including Association and Long- Term Retrieval (Glr)** **Developmental Notes[1]:** Long-Term Recall matures early, after gradual development. Working Memory matures late after gradual development.	3 to 4	4
	Rapid Naming Skills	Ø	See "Long-Term Retrieval" under "Memory" above.

	Conceptualization and Fluid Reasoning (Gf)/ Problem-Solving **Developmental Note[1]:** Fluid Reasoning is one of the last cognitive abilities and processes to fully develop. Full Development of fluid reasoning cannot be expected until late adolescence. Fluid reasoning matures late, after gradual development.	Ø	Ø
	Expression **Developmental Note[1]:** Oral language matures late, after gradual development.	3	By definition, oral expression as a process is related to oral expression as a skill.
	Language Processing **Developmental Note[1]:** Oral language matures late, after gradual development.	The relationship between language processing (as a processing area) and listening comprehension (as an academic achievement area) is implicit, as both are interlinked and overlapping parts of language comprehension.	The relationship between language processing (as a processing area) and oral expression (as an academic achievement area) is implicit, as the processing of language is required prior to and while expressing oneself aloud.

COMPARES for California's Five Processing Areas, Sub-Areas, and Academic Areas

Processing Area	Sub-Area	Listening Comprehension	Oral Expression
	Processing Speed **Developmental Note[1]:** Processing speed matures early after rapid development.	3	3
	Executive Functions, Executive Memory, Executive Working Memory **Developmental Note[1]:**	4 See also "Memory" section in "Cognitive Abilities" above.	4 See also "Memory" section in "Cognitive Abilities" above.

	Executive functions mature late, after gradual development.		
COMPARES for California's Five Processing Areas, Sub-Areas, and Academic Areas			
Processing Area	**Sub-Area**	**Listening Comprehension**	**Oral Expression**
Sensory-Motor Skills	**Visual Motor, Fine Motor, Graphomotor, Sensorimotor, Sensory-Motor, Psychomotor Perceptual Motor** **Developmental Note[1]:** Fine motor processing matures early after gradual development.		Ø
	Sensorimotor Memory	Ø See "Memory" under "Cognitive Abilities."	Ø See "Memory" under "Cognitive Abilities."
	Sensorimotor Speed, Graphomotor Speed	Ø See "Processing Speed" under "Cognitive Abilities."	Ø See "Processing Speed" under "Cognitive Abilities."
	Oral Motor/Oral Motor Speed		**California Education Code 56333, CCR Title 5, Section 3030(c)** (an articulation disorder is when the pupil displays reduced intelligibility or an inability to use the speech mechanism which significantly interferes with

			communication and attracts adverse attention) Consider referral to Speech/Language Pathologist.

COMPARES for California's Five Processing Areas, Sub-Areas, and Academic Areas			
Processing Area	**Sub-Area**	**Listening Comprehension**	**Oral Expression**
Attention[†] **Developmental Note**[1]**:** Attention matures late after gradual development.	**Attention**	❷	❶

[1] Developmental groupings of processes are provided in Dr. Milton J. Dehn's *Essentials of Processing Assessment, Second Edition,* 2014, pp. 48 and

- Dr. Dehn reports that all processes begin to develop about the same time during early childhood, but the rate of progress varies. Basic developmental processes (e.g., perceptual processes) reach full development relatively early, but higher-level processes (e.g., executive functions) take longer to fully mature. Dr. Dehn identifies three groupings of processes based on timing of maturation: 1.) mature early after gradual development, plateauing in elementary school (auditory, fine motor, long-term recall, phonological, visual-spatial); 2.) mature in adolescence after gradual development (attention, executive functions, fluid reasoning, oral language, working memory); 3.) mature early after rapid development, plateauing in elementary school (processing speed).

The Comprehensive Organizational Matrix of Processing- Achievement Relations, Evaluating Significance Glossary for the COMPARES

The Glossary contains definitions of processing areas and sub-areas used by the team of school psychologists who read the research that underlies the COMPARES. While all study authors do not use the same definitions in their studies, shared working definitions were helpful in establishing a common frame of reference for the COMPARES team to use to approach the research literature. As test publishers also do not use identical definitions for processing areas in each of their assessment instruments, the practitioner is urged to consider how best to interpret which processing area is being measured when selecting tools to evaluate students. This Glossary may be useful in that regard.

In addition to the working definitions, to allow the user to view the original wording used by the authors of the following key sources, the Glossary includes direct quotations excerpted from these authors' writings, following the definitions:

Dehn, M. J. (2014a). *Essentials of processing assessment* (2nd ed.). New York: John Wiley & Sons.

Dehn, M. J. (2014b). *Working memory in the classroom.* Wisconsin: Schoolhouse Educational Services, LLC.

Dehn, M. J. (2010). *Long-term memory problems in children and adolescents: Assessment, intervention, and effective instruction.* New York: John Wiley & Sons.

Dehn, M. J. (2008). *Working memory and academic learning: Assessment and intervention.* New York: John Wiley & Sons.

Flanagan, D. P., Alfonso, V. C., & Ortiz, S. O. (2012). The cross-battery assessment approach: An overview, historical perspective, and current directions. In Flanagan D.P. Editor & Harrison,

P.L. Edition (Eds.), *Contemporary Intellectual Assessment, Third Edition* (pp. 459-483). New York: Guilford Press.

Flanagan, D. P., & Ortiz, S. O., Alfonso, V. C., (2013). *Essentials of cross-battery assessment* (3rd ed.). New York: John Wiley & Sons, Inc.

Newton, J.H. & McGrew, K.S. (2010). Introduction to the special issue: Current research in Cattell-Horn-Carroll-Based assessment. *Psychology in the Schools,* Vol. 47(7), pp.621-634.

Rodrigues, J. & Decker, K. (2007). *Special education information packet for San Lorenzo High School general education teachers.* San Lorenzo Unified School District, California

COMPARES GLOSSARY
OF PROCESSING AREAS AND SUB-AREAS

Association

Association is the mental/psychological process of remembering basic units of information and establishing systems for relating those units to each other. Association is listed as a "basic psychological process" by California Education Code (California Department of Education: Section 3030(b)(10), Title 5, CCR). See definitions of "Memory," "Long-Term Retrieval," "Working Memory," "Rapid Naming Skills," "Orthographic Processing, "Auditory Memory," "Visual Memory," and "Sensorimotor Memory" in the Glossary.

Key Authors In Their Own Words:	
Associative Memory (MA): The ability to remember previously unrelated information as having been paired.	Flanagan et al., 2013
Associational Fluency (FA): The ability to rapidly produce a series of original or useful ideas related to a concept.	Flanagan et al., 2013
Retrieval Fluency: Tasks of this nature are sometimes referred to as associational fluency or verbal fluency tasks. These activities are	Dehn, 2008

intended to measure the examinee's speed of long-term memory retrieval.	
A working memory measurement paradigm developed by Cowan et al 2006 using verbal-spatial associations involved remembering the location of names presented on a computer screen, to measure working memory for abstract information, with cross-modal associations required.	Dehn, 2008

Attention

Attention is the mental/psychological process of maintaining alertness to incoming sensory stimuli in order to process it. Attention requires the sustained focus of cognitive resources on information while filtering or ignoring extraneous information. Attention is a basic or "gatekeeping" function that is a foundation to all other neurological/cognitive functions. Attention is listed as a "basic psychological process" by California Education Code (California Department of Education: Section 3030(b)(10), Title 5, CCR). Attention is a process that matures late after gradual development and is associated with the Frontal, Parietal, and Temporal lobes of the brain (Dehn, 2014a). See also "Executive Functions."

Some researchers divide attention into component parts, which may be measured separately:

- Focused Attention: The ability to respond discretely to specific visual, auditory or tactile stimuli.
- Sustained Attention (vigilance): The ability to maintain a consistent behavioral response during continuous and repetitive activity.
- Selective Attention: The ability to maintain a behavioral or cognitive set in the face of distracting or competing stimuli. Therefore it incorporates the notion of "freedom from distractibility."
- Alternating/Shifting Attention: The ability of mental flexibility that allows individuals to shift their focus of attention and move between tasks having different cognitive requirements.
- Divided Attention: This is the highest level of attention and it refers to the ability to respond simultaneously to multiple tasks or multiple task demands.

Key Authors In Their Own Words:	
Attention is a state of awareness in which the senses and cognition are selectively focused on certain stimuli, thoughts, or aspects of the environment. The cognitive processes of attention are those self- inhibitory processes that allow one to focus, sustain, and divide attention.	Dehn, 2014a
Attention is a complex and multi-faceted neuropsychological function used when an individual must focus on certain stimuli for information processing. In order to regulate thinking and to complete tasks of daily living such as schoolwork, it is necessary to be able to attend to both auditory and visual stimuli in the environment. Attention can be viewed as the foundation of all other higher-order processing. Attention can be divided into five sub-areas: selective/focused attention, shifting attention, divided attention, sustained attention, and attentional capacity (Miller 2007).	Flanagan et al., 2013

Auditory Memory

Auditory Memory is remembering what has been heard. Variously called Auditory Memory, Auditory Short-Term Memory, Verbal Memory, Verbal Short-Term Memory, Verbal Working Memory, Phonological Memory, Phonological Short-Term Memory, Short-Term Auditory Memory, Short-Term Memory, and similar terms, Auditory Memory may be found in the COMPARES under Auditory Processing as well as under Cognitive Abilities: Memory. See also "Memory" and particular types of memory in Glossary.

Key Authors In Their Own Words:	
Although frequently referred to as auditory or verbal short-term memory, phonological short-term memory is a more appropriate term, because auditory input is processed and encoded phonologically (Dehn 2008). Phonological short-term memory is a limited-capacity, speech-based store of verbal information (Baddeley, 1986, 2003).	Dehn, 2014a
Verbal working memory consists of complex working memory operations in which analysis, manipulation, and transformation of verbal material take place (Dehn, 2008). One of the primary functions of verbal working memory is to extract a meaningful representation that corresponds to the information taken in by phonological short-term memory.	Dehn, 2014a
Memory Span (MS): The ability to maintain information, maintain it in primary memory, and immediately reproduce the information in the same sequence in which it was represented."	Flanagan et al., 2013
Working Memory Capacity (MW): The ability to direct the focus of attention to perform relatively simple manipulations, combinations, and transformations of information within primary memory while avoiding distracting stimuli and engaging in strategic/controlled searches for information in secondary memory.	Flanagan et al., 2013
Short-Term Memory: Ability to hold information in immediate awareness and use or transform it within a few seconds	Flanagan et al., 2012

Auditory Perception

Auditory Perception is the mental/psychological process of deriving meaning from auditory stimuli and using the auditory information for the purpose of learning. See "Sound Discrimination" and "Auditory Processing."

Auditory Processing

Auditory Processing refers to the ability to perceive, analyze, and synthesize a variety of auditory stimuli. Measures of auditory processing tap into phonemic awareness (rhyming, segmentation, sound-symbol association), auditory perception, sound discrimination, auditory mental manipulation, as well as auditory memory. Auditory Processing may also apply to processing more complex combinations of sounds, including language, although this type of processing overlaps with the category of Language Processing (found in the Cognitive Abilities section of the COMPARES). Auditory Processing is listed as a "basic psychological process" by California Education Code (California Department of Education: Section 3030(b)(10), Title 5, CCR). Auditory processing matures early, after gradual development, and is associated with the Temporal lobe of the brain (Dehn, 2014a). See "Phonological Processing," "Auditory Memory," "Auditory Processing Speed," "Processing Speed," and "Language Processing" in Glossary.

Key Authors In Their Own Words:	
The processes involved in perceiving, analyzing, synthesizing and discriminating speech and other auditory stimuli	Dehn, 2014a
Ability to analyze and synthesize auditory information.	Flanagan et al., 2013
The ability to detect and process meaningful nonverbal information in sound.	Flanagan et al., as cited in Schneider and McGrew, 2012
Abilities that depend on sound as input and on the functioning of our hearing apparatus. A key characteristic is the extent to which an individual	Newton & McGrew 2010

can cognitively control (i.e., handle the competition between signal and noise) the perception of auditory information. The Ga domain circumscribes a wide range of abilities involve din the interpretation and organization of sounds, such as discriminating patterns in sound and musical structure (often under background noise and/or distorting conditions) and the ability to analyze, manipulate, comprehend, and synthesize sound elements, groups of sounds, or sound patterns.	
The ability to detect and process meaningful nonverbal information in sound.	Flanagan et al., as cited in Schneider and McGrew, 2012
Abilities that depend on sound as input and on the functioning of our hearing apparatus. A key characteristic is the extent to which an individual can cognitively control (i.e., handle the competition between signal and noise) the perception of auditory information. The Ga domain circumscribes a wide range of abilities involve din the interpretation and organization of sounds, such as discriminating patterns in sound and musical structure (often under background noise and/or distorting conditions) and the ability to analyze, manipulate, comprehend, and synthesize sound elements, groups of sounds, or sound patterns.	Newton & McGrew 2010

Auditory Processing Speed

Processing Speed as applied to perception of auditory stimuli. Auditory Processing Speed may involve processing sounds in isolation or in combination, but could also refer to how well an individual can quickly process more complex auditory input, such as language. In the COMPARES, Auditory Processing Speed is subsumed under Processing Speed, in general.
See "Processing Speed."

Cognitive Abilities

"Cognitive Abilities" is listed as a "basic psychological process" by California Education Code (California Department of Education: Section 3030(b)(10), Title 5, CCR). Cognitive Abilities is an umbrella term, according to Code, which includes Association, Conceptualization, and Expression. These terms are defined individually within the Glossary.

Conceptualization

Conceptualization is the mental/psychological process of understanding or grasping the significance and meaning of increasingly complex information and ideas, including abstract thinking and reasoning. Conceptualization is listed as a "basic psychological process" by California Education Code (California Department of Education: Section 3030(b)(10), Title 5, CCR). Conceptualization is also known as Fluid Reasoning (Gf) and Problem-Solving. See "Fluid Reasoning."

Crystallized Knowledge

Crystallized Knowledge, also called Crystallized Abilities, refers to a person's knowledge base or general fund of information that has been accumulated and remembered over time. It involves knowledge of one's culture, as well as verbal or language-based learning that has been acquired during general life experiences and formal schooling. When a student lacks background knowledge and/or language development to support academic learning, the student may demonstrate difficulty with comprehension of directions and material read, as well as difficulty with oral expression and content of written language. In the COMPARES, Crystallized Knowledge is subsumed under the category of Language Processing. See "Language Processing" and "Expression" in the Glossary.

Executive Functions

"Executive Functions" is an umbrella term that refers to a set of mental skills that work together to help direct, manage, regulate, and control a person's cognitions and behavior towards achieving goals, and are coordinated primarily, although not exclusively, in the frontal lobe of the brain. Executive Functions are variously referred to as Executive Functioning, Executive Processes, the Central Executive, Executive Control, Mental Control, or Cognitive Control, and includes aspects of memory known as Executive Memory, Executive Working Memory, or Working Memory. While this term does not have one agreed-upon definition among researchers, some of the component parts may include metacognition (including initiation of problem-solving or activity, paying attention and using working memory, planning/organizing problem-solving approaches, using strategies, organization of materials and environment, consciously integrating past experience with present action, self-monitoring) and behavioral regulation (including ability to inhibit impulsive responses, to shift/switch/transition and adjust flexibly to changes in routine or task demands, managing time, space, and attention, and to exercise emotional self- control/emotional modulation). Executive functions mature late, after gradual development (Dehn, 2014a).

Key Authors In Their Own Words:	
An array of mental processes responsible for regulating cognitive functions during purposeful, goal-directed, problem-solving behavior.	Dehn, 2014a
Executive functioning is a higher-level psychological process that includes an array of mental processes responsible for cuing, directing, and coordinating multiple aspects of perception, cognition, emotion, and behavior during purposeful, goal-directed, problem-solving behavior. The different executive functions, which are analogous to a board of directors, monitor and manage cognitive functions. The complexity of executive functioning is illustrated by McCloskey and Perkins (2013), who identify 32 different self-regulation executive functions organized under the six executive clusters of attention, engagement, optimization, evaluation, efficiency, and memory.	Dehn, 2014a
Executive function often is understood as two broadly conceptualized areas that are related to the brain's frontal lobes: cognitive control and behavioral/emotional control. The cognitive aspects of executive functioning includes concept generation (Gc/Glr); problem solving (Gf); attentional shifting (attention; Gs), planning; organizing; working memory (Gsm); and retrieval fluency (Glr). The behavioral/emotional aspects of executive functioning relate to the inhibitory controls of behavior (e.g., impulsivity, regulation of emotional tone, etc.) (See Miller, 2007).	Flanagan et al., 2013
Definitions of selected executive functions include *Working Memory Capacity, Concept Formation and Generation, Planning, Reasoning, and Problem-Solving, Retrieval Fluency, and Attention.*	Flanagan et al., 2013

Executive Memory

See "Executive Working Memory."

Executive Working Memory

Executive Working Memory, also called Executive Memory, refers to the Working Memory – Executive Functions interface, including processes that work together to coordinate relations between the brain's memory subsystems. See "Working Memory" and "Executive Functions."

Key Authors In Their Own Words:	
Executive Working Memory is distinct from broad executive processes in	Dehn, 2008

that it is restricted to the management of memory systems. It is similar to Baddeley's central executive in that it involves coordinating interaction between memory subsystems and inhibiting irrelevant memory items. In particular, executive working memory is involved whenever tasks require the coordination of storage and processing. Executive working memory also enacts strategies that extend short- term memory span and guide retrieval of information stored in long- term memory. Executive working memory is not domain specific and does not itself have any storage capacity; working memory storage capacity is provided by the working memory operations component.	
Executive Working Memory, also called Executive Memory, helps coordinate the memory systems of the brain, including helping an individual to access strategies to support and enhance successful short-term and long-term memory use.	Dehn, 2008
Executive working memory is involved whenever an individual must simultaneously store and process information. Tasks that introduce interference or a secondary processing task while requiring the retention of information will necessarily involve the central executive.	Dehn, 2014a

Expression

Expression is the mental/psychological process of conveying the meaning of information to others via oral, written, or gestural language. Expression is listed as a "basic psychological process" by California Education Code (California Department of Education: Section 3030(b)(10), Title 5, CCR). Oral Language matures late, after gradual development, and is associated with the Frontal and Temporal lobes of the brain (Dehn, 2014a). See "Language Processing" and "Crystallized Knowledge."

Key Authors In Their Own Words:	
Expressional Fluency (FE): The ability to rapidly think of different ways of expressing an idea.	Flanagan et al., 2013
Communication Ability (CM): The ability to use speech to communicate one's thoughts clearly.	Flanagan et al., 2013

Fine Motor Skills

Fine Motor Skills involve use of the small muscles of the body to perform precise movements during activities like grasping minute objects, buttoning clothing, and writing. Typically, a reference to Fine Motor Skills in relation to writing means the use of small muscles in an individual's hand, fingers, and wrist, although a complex task like writing also involves other muscles. Strength, dexterity, control, and speed are factors in successful Fine Motor performance. Fine motor processing matures early after gradual development and is associated with the Frontal and Parietal lobes of the brain. See "Graphomotor Skills," "Processing Speed," "Psychomotor Abilities," "Sensory-Motor Skills," and "Visual Motor Skills" in the Glossary.

Key Authors In Their Own Words:	
[Fine Motor Processing includes] The processes, such as motor planning, involved in the control and coordination of small muscle movements that occur in the fingers	Dehn, 2014a

Fluid Reasoning

Fluid Reasoning, also known as Conceptualization or Problem-Solving, is found within the Cognitive Abilities section of the COMPARES. Fluid Reasoning refers to a type of verbal or nonverbal thinking that an individual may use when faced with a relatively new task that cannot be performed automatically. This type of thinking includes such things as forming and recognizing concepts (e.g., how are a dog, cat, and cow alike?), identifying and perceiving relationships (e.g., sun is to morning as moon is to night), drawing inferences (e.g., after reading a story, answer the question), and reorganizing or transforming information. Overall, this ability can be thought of as a problem-solving type of intelligence. Fluid reasoning is associated with the Frontal and Parietal lobes of the brain (Dehn, 2014a). Fluid reasoning skills maturation occurs gradually, making this process one of the last to fully develop, typically taking until late adolescence (Dehn, 2014a).

Key Authors In Their Own Words:	
The ability to reason deductively and inductively, especially when solving novel problems.	Dehn, 2014a
Fluid reasoning is the ability to reason, form concepts, and solve problems, particularly when confronted with a novel task or unfamiliar situation. It involves both deductive and inductive reasoning…From an assessment perspective, fluid reasoning can be divided into verbal and nonverbal domains.	Dehn, 2014a
Fluid Reasoning (Gf) as CHC Broad Ability: The deliberate but flexible control of attention to solve novel, on-the-spot problems that cannot be performed by relying exclusively on previously learned habits, schemas, and scripts	Flanagan et al., as cited in Schneider & McGrew, 2012
Novel reasoning and problem-solving: ability to solve problems that are unfamiliar	Flanagan et al., 2013
Processes are minimally dependent on prior learning.	Flanagan et al., 2013
Involves manipulating rules, abstracting, generalizing, and identifying logical relationships.	Flanagan et al., 2013
Fluid reasoning is evident in inferential reasoning, concept formation, classification of unfamiliar stimuli, categorization, and extrapolation of reasonable estimates in ambiguous situations.	Flanagan et al., as cited in Schneider & McGrew, 2012
The use of deliberate and controlled mental operations, often in a flexible manner, to solve novel problems that cannot be performed automatically. Mental operations often include drawing inferences, concept formation, classification, generalization, generating and testing hypothesis, identifying relations, comprehending implications, problem solving, extrapolating, and transforming information. Inductive and deductive reasoning are generally considered the hallmark indicators of Gf. Gf has been linked to cognitive complexity, which is typically defined as the greater use of a wide and diverse array of elementary cognitive processes during performance. Historically is often referred to as fluid intelligence.	Newton & McGrew, 2010

Graphomotor Skills

Graphomotor Skills is a sub-area within the Sensory-Motor Skills section of the COMPARES. As distinct from Fine Motor and Visual-Motor Skills, Graphomotor Skills refers to the highly specialized motor processes involved in writing using an implement such as a pencil or pen. To form a letter when writing, an individual uses Graphomotor Skills to coordinate finger muscles efficiently, to maneuver the pencil in the right directions with the right pressure. See "Sensory- Motor Skills."

Key Authors In Their Own Words:	
Fine motor functioning and skills that produce written symbols are part of a larger construct known as graphomotor abilities…involve more than just	Dehn, 2014a

control of fine motor movements…also include sensory awareness of the fingers, visual-motor integration, and retrieval of symbol shapes stored in long-term memory…Graphomotor difficulties…also referred to as dysgraphia…	

Graphomotor Speed

Graphomotor Speed is how quickly a person can perform graphomotor tasks. See "Graphomotor Skills," "Sensory-Motor Skills," "Sensory-Motor Speed," and "Processing Speed."

Key Authors In Their Own Words:	
CHC Narrow Ability Writing Speed (WS): The ability to copy or generate text quickly.	Flanagan et al., 2013
The rate at which words or sentences can be generated or copied.	Flanagan et al., 2013

Language Processing

Language Processing in the COMPARES is found in the Cognitive Abilities section and refers to communication skills including both receptive (understanding language) skills and expressive (constructing language) skills, and overlaps with several other areas. The areas of overlap include Expression (which focuses specifically on Oral Expression), Auditory Processing (which focuses more on the sounds of language rather than meaning), and Crystallized Knowledge (which is subsumed into the category of Language Processing). Oral Language matures late, after gradual development, and is associated with the Frontal and Temporal lobes of the brain (Dehn, 2014a). See "Expression," "Auditory Processing," and "Crystallized Knowledge."

Key Authors In Their Own Words:	
Oral Language Processing: The linguistic processes that allow one to communicate effectively, such as the ability to construct meaningful sentences."	Dehn, 2014a
Language Development: General understanding of spoken language at the level of words, idioms, and sentences.	Flanagan et al., 2013
Listening Ability: The ability to understand speech.	Flanagan et al., 2013

Long-Term Recall

Long-Term Recall, also called Long-Term Retrieval, is listed under Memory within the Cognitive Abilities section of the COMPARES and refers to an individual's ability to take in and store a variety of information (e.g., ideas, names, concepts) in one's mind, and then retrieve this information at a later time using association. Long-Term Recall includes the processes of encoding, storing, consolidating, and retrieving information. Long-Term Recall matures early, after gradual development and is associated with the Temporal, Parietal, Occipital, and Frontal lobes of the brain (Dehn, 2014a). See "Memory" and "Rapid Naming Skills."

Key Authors In Their Own Words:	
Long-Term Recall: Delayed recall of new learning and the long-term memory processes of encoding, consolidation, storage, and fluent retrieval.	Dehn, 2014a
Long-term memory is dynamic; it's not a passive repository of information. Even during sleep the brain is constantly processing and updating g memory representations.	Dehn, 2010
For its part, long-term memory supports short-term memory functioning. Long-term memory representations directly enhance short-term span. When information enters short-term memory, related information in long-	Dehn, 2010

term storage is immediately and automatically activated.	
Long-Term Storage and Retrieval (Glr) as CHC Broad Ability: The ability to store, consolidate, and retrieve information over periods of time measured in minutes, hours, days, and years.	Flanagan et al., as cited in Schneider & McGrew, 2012
Long-Term Retrieval (Glr) Ability to store information (e.g., concepts, words, facts), consolidate it, and fluently retrieve it at a later time (e.g., minutes, hours, days, and years) through association.	Flanagan et al., 2013

Long-Term Retrieval

Another term for "Long Term Recall." See "Long-Term Recall."

Memory

Memory is an umbrella term for remembered learning that includes the processes required to encode, consolidate, store, and retrieve verbal and nonverbal information, whether on a shorter- term or longer-term basis, whether visual, auditory, or motor. Memory is listed under Cognitive Abilities in the COMPARES as well as under Auditory Processing, Visual Processing, and Sensory-Motor Processing. The California Education Code term "Association" refers to remembering information and establishing systems for relating remembered-units to each other, and is interpreted as another way of referencing aspects of memory. (See "Association" in Glossary.) Theoreticians have created a number of models of memory, with varying terms assigned. In one conceptualization, there are three memory systems: short-term, working memory, and long-term memory, all of which involve taking in information, storing it for a period of time, and recalling it; short-term memory is considered a subcomponent of working memory (Dehn, 2008; 2014). In another conceptualization, short-term memory and long-term retrieval are two of the CHC broad abilities, and involve holding/storing information for use either within a few seconds, or for later retrieval through association (Flanagan et al., 2012; Flanagan et al., 2013). See "Working Memory," "Short-Term Memory," "Long-Term Retrieval," "Rapid Naming Skills," "Auditory Memory," "Visual Memory," and "Sensory-Motor Memory" in the Glossary.

Oral Expression

See "Expression" and "Language Processing."

Oral Motor Skills

Oral motor skills is a sub-area of Sensory-Motor Skills in the COMPARES and refers to how well an individual can move the muscles of the face (including mouth, jaw, tongue, and lips) in order to produce speech.

Oral Motor Speed

Oral motor speed refers to how quickly an individual can move the muscles of the face (including mouth, jaw, tongue, and lips) in order to produce speech. See "Oral Motor Skills."

Key Authors In Their Own Words:	
Speed of Articulation: The ability to rapidly perform successive articulations with the speech musculature.	Flanagan et al., 2013

Orthographic Processing

Orthographic Processing is a sub-area of Visual Processing in the COMPARES and refers more to processing the "look" of a word than to its phonologic structure. Although there appears to be no absolute consensus definition of the term, Orthographic Processing relies on visual coding and visual memory to allow a reader to retain the images of letters or symbols, patterns of letters, or of an entire word, so that the learner may

fluently read or write the word or symbol later. Additional shades of meaning for Orthographic Processing include the concept of the individual understanding the conventions of written language, having knowledge of conventional spelling, spelling rules, and spelling patterns, and understanding the representation of word boundaries, stops and pauses in speech, and tonal inflection. The English language is thought to have a "deep" orthography, because the writing system does not have consistent or one-to- one correspondence between the phonemes in speech and the written code.

Key Authors In Their Own Words:	
Orthographic processing is a type of visual-spatial processing that might be more closely related with academic learning than broad visual-spatial processing. Orthographic processing is the ability to rapidly map graphemes (letters and groups of letters) to phonemes. Children with orthographic processing difficulties have particular problems remembering letter sequences and spelling words that contain irregular spelling patterns because they do not have mental images of words stored in memory.	Dehn, 2014a
Orthographic processing or awareness (the ability to rapidly map graphemes to phonemes) may be more related to the perceptual speed tasks found on cognitive tests (e.g., Symbol Search on the Wechsler Scales).	Flanagan et al., 2013

Phonological Memory

Phonological Memory, also known as Phonological Short-Term Memory or Phonological Working Memory, involves coding of auditory and verbal information into short-term storage for brief retention and then immediate recall. Phonological Short-Term Memory is conceptualized by some memory theorists as having a passive storage component and a rehearsal component. See "Memory," "Auditory Memory," and "Phonological Processing.

Key Authors In Their Own Words:	
Although frequently referred to as auditory or verbal short-term memory, phonological short-term memory is a more appropriate term, because auditory input is processed and encoded phonologically (Dehn, 2008).	Dehn, 2014a; 2010
Phonological short-term memory, also referred to as the phonological loop or the articulatory loop, is a limited capacity, speech-based store of verbal information (Baddeley, 1986; 1983).	Dehn, 2014a
Short-term phonological capacity is analogous to an audio tape recorder loop of a specific length. Words or other auditory units are recorded in the order they are perceived, and they will quickly decay or be recorded over by new auditory units unless rehearsal re-records them onto the tape. Amazingly, this phonological loop is only two seconds in duration, regardless of the individual's age.	Dehn, 2014a; 2010
The exact nature of the relationship between phonological short-term memory and phonological processing is not entirely known but certainly the two processes are integrally related (Hulme & Mackenzie, 1992)…It is possible that phonological processing is the underlying process that determines the capacity and functioning of phonological short-term memory.	Dehn, 2008
Baddeley (1986), who developed the predominant working memory model, subdivides phonological short-term memory into passive phonological storage and subvocal, articulatory rehearsal.	Dehn, 2010
…there is clear neurological evidence supporting the division of phonological short-term memory into a passive storage component and a rehearsal component.	Dehn, 2010

Phonological Processing

Phonological Processing is a sub-area of Auditory Processing in the COMPARES, and includes phonemic awareness, sound discrimination, phonetic coding, and Phonological Memory. This type of processing involves the ability to hear, manipulate and, in the case of Phonological Memory, remember phonemes. Phonological Processing matures early after gradual development and is associated with the Temporal and Parietal lobes of the brain (Dehn, 2014a). See "Auditory Processing" and "Phonological Memory."

Key Authors In Their Own Words:	
The manipulation of phonemes, the smallest units of speech that are used to forms syllables and words.	Dehn, 2014a
Phonemic awareness – the understanding that words (spoken and written) can be divided into discrete sounds – is an important dimension of phonological processing	Dehn, 2014a
Phonetic Coding (PC): The ability to hear phonemes distinctly.	Flanagan et al., 2013
Speech Sound Discrimination (US): The ability to detect and discriminate differences in speech sounds (other than phonemes) under conditions of little distraction or distortion.	Flanagan et al., 2013
Phonetic Coding (PC): Ability to code, process, and be sensitive to nuances in phonemic information (speech sounds) in Gsm. Includes the ability to identify, isolate, blend or transform sounds of speech. Frequently referred to as phonological or phonemic awareness.	Newton & McGrew, 2010
Speech/Sound Discrimination (US): Ability to detect and discriminate differences in phonemes or speech sounds under conditions of little or no distraction or distortion.	Newton & McGrew, 2010

Processing Speed

In theory, Processing Speed measures how quickly an individual can process input, whether visually, auditorily, or motorically, but, due to the impossibility of measuring the actual speed of thinking, it is measured at the output level, using hands or voice to respond to a prompt. The COMPARES lists the relationship ratings of Processing Speed under the Cognitive Abilities section, although speed of visual processing, speed of auditory (and language) processing, and speed of sensory-motor processing are also listed under their respective sections, as well, to acknowledge that there may be differences among different types of speeded responses, depending on the modality involved. Processing speed matures early after rapid development and is not associated with a particular area of the brain, but may be related to the amount of interconnectivity within the brain and myelination, with greater myelination permitting faster transmission (Dehn, 2014a). Processing Speed has an exceptionally strong relationship with Working Memory. See "Visual Processing Speed," "Auditory Processing Speed," "Sensory- Motor Speed," "Rapid Naming Skills," "Retrieval Fluency," and "Working Memory."

Key Authors In Their Own Words:	
Processing speed refers to how quickly information is processed and how efficiently simple cognitive tasks are executed over a sustained period. Processing speed is typically tested with tasks requiring the examinee to perform relatively easy overlearned procedures that require little reasoning or higher-level complex processing. Broad processing speed can be divided into simple processing speed, which reflects the mental speed required to perform undemanding attentional tasks such as target detection, and complex processing speed, which reflects the total time to complete more demanding tasks, such as a task that involves decisions."	*Dehn, 2014a*
Processing Speed (Gs) as CHC Broad Ability, as defined in Schneider and McGrew 2012: The ability to perform simple, repetitive cognitive tasks quickly and fluently	*Flanagan et al., as cited in Schneider & McGrew, 2012*
Processing Speed (Gs): "Speed of processing, particularly when required to focus attention for one to three minutes." "Usually measured by tasks that require the ability to perform simple, repetitive tasks quickly and accurately."	*Flanagan et al., 2013*
Rate of Test-Taking (R9): "The speed and fluency with which simple cognitive tests are completed."	*Flanagan et al 2013*

Psychomotor Abilities

Psychomotor Abilities include skills that rely on a unity of cognitive functions and physical movements to achieve a goal. Examples of Psychomotor Abilities include eye-hand coordination, balance, reaction time, finger dexterity, and arm-hand steadiness. The term "Psychomotor Abilities" overlaps with other Glossary terms such as "Fine Motor Skills," "Graphomotor Skills," "Visual Motor Skills" and "Sensory-Motor Skills."

Key Authors In Their Own Words:	
[Psychomotor Abilities include] The abilities to perform physical body motor movements (e.g., movement of fingers, hands, legs) with precision, coordination, or strength.	Flanagan et al., as cited in Schneider & McGrew, 2012
[Psychomotor Abilities include] The abilities to perform physical body motor movements (e.g., movement of fingers, hands, legs) with precision, coordination, or strength. Movement or motor behaviors are typically the result of mental activity.	Newton & McGrew, 2010

Rapid Naming Skills

Rapid Naming Skills, also known as Rapid Automatic Naming (RAN) and Rapid Automatized Naming, taps into a visual-verbal, cross-modal connection to see how quickly and correctly an individual can view and then name aloud letters, numbers, objects, pictures, or colors. Researchers in recent years have used RAN to measure a variety of skills, including long-term retrieval, phonological processing, orthographic processing, processing speed, and as a predictive measure of future reading success. There appears to be no definitive consensus as to the theoretical constructs underlying RAN. RAN is listed in the COMPARES next to the Memory section within the Cognitive Abilities section.

Key Authors In Their Own Words:	
The skills of rapid automatic naming (RAN) or naming facility are subsets of long-term recall, and are a specific type of retrieval.	Dehn, 2014a
In RAN, the examinee is directed to quickly name pictures of common objects or other well-known stimuli. "Naming is typically a less- demanding retrieval activity than recalling semantically related items, especially when naming involves a limited class such as colors. Consequently, RAN performance is an indication of poor retrieval speed more so than inefficient search mechanisms."	Dehn, 2010
The ability to rapidly call objects by their names."	Flanagan et al., 2013

Sensorimotor Memory

Sensorimotor Memory, also known as Motor Learning or Muscle Memory, is a type of procedural learning that involves repeating a physical task until it is learned to automaticity. The repetition of the motor movement leads to consolidation into memory, so that the action ultimately can be performed without conscious effort. The movements involved with writing by hand are thought to create a Sensorimotor Memory, which allows writing to become easier with practice.

Sensorimotor Skills

Another spelling for Sensory-Motor Skills. See "Sensory-Motor Skills."

Sensorimotor Speed

Sensorimotor Speed is how quickly a person can perform sensorimotor tasks using their Sensory-Motor Skills. See also "Psychomotor Abilities," "Sensory-Motor Skills," and "Processing Speed."

Key Authors In Their Own Words:	
Psychomotor Speed (Gps) as CHC Broad Ability: The speed and fluidity with which physical body movements can be made.	Flanagan et al., as cited in Schneider and McGrew, 2012

Sensory-Motor Skills

Sensory-Motor Skills or Sensory-Motor Integration is the mental/psychological process that involves engaging perceptual and cognitive skills to organize physical output. As a basic psychological process involved in learning, sensory-motor skills chiefly involve fine-motor and graphomotor output. The sensory-motor process may include measures of visual-motor integration, motor speed, and overall fine-/gross-motor skills. Sensory-Motor Skills is listed as a "basic psychological process" by California Education Code (California Department of Education: Section 3030(b)(10), Title 5, CCR). Fine motor processing matures early after gradual development, and is associated with the frontal and parietal lobes of the brain (Dehn, 2014a). See "Fine Motor Skills," "Graphomotor Skills," "Oral Motor Speed," "Psychomotor Abilities," "Sensorimotor Memory," "Sensorimotor Speed," "Visual Motor Skills," and "Processing Speed" in Glossary.

Key Authors In Their Own Words:	
[Fine Motor Processing includes] The processes, such as motor planning, involved in the control and coordination of small muscle movements that occur in the fingers	Dehn, 2014a
[Psychomotor Abilities include] The abilities to perform physical body motor movements (e.g., movement of fingers, hands, legs) with precision, coordination, or strength	Flanagan et al., as cited in Schneider & McGrew, 2012
[Psychomotor Abilities include] The abilities to perform physical body motor movements (e.g., movement of fingers, hands, legs) with precision, coordination, or strength. Movement or motor behaviors are typically the result of mental activity	Newton & McGrew, 2010

Short-Term Memory

Short-Term Memory refers to the temporary, passive retention of a small amount of information, whether involving auditory-verbal-phonological or visuospatial components. In the COMPARES, Short-Term Memory is subsumed under the Memory sub-area within the Cognitive Abilities section, as well as being part of Auditory Memory, Phonological Memory, and Visual Memory. In the Glossary, see "Memory," "Working Memory," "Auditory Memory," "Phonological Memory," "Phonological Processing," "Visual Memory," and "Visual-Spatial Memory."

Key Authors In Their Own Words:	
Short-term memory, defined as the passive storage of verbal and visuospatial information, can bypass working memory and automatically encode information into long-term memory, as well as automatically activate long-term memory representations. Short-term memory structures and processes are limited to those that are passive, instantaneous, and fairly automatic. In this integrated model, short- term memory components consist of phonological short-term memory and visuospatial short-term memory, as described in Baddeley's model, but without the conscious rehearsal aspects that are the responsibility of working memory.	Dehn, 2008
In contemporary memory models, short-term memory is thought to be embedded within the working memory system. In an unconscious mode, short-term memory can operate independently of working memory, but whenever short-term memory content is being managed, working memory is performing that executive function. Both short-term memory and working memory can be divided into auditory-verbal and visuospatial components.	Dehn, 2008; 2010
Short-Term Memory (Gsm) as CHC Broad Ability: The ability to encode, maintain, and manipulate information in one's immediate awareness.	Flanagan et al., as cited in Schneider & McGrew, 2012
Ability to hold information in immediate awareness and use or transform it within a few seconds	Flanagan et al., 2013

Sound Discrimination

Sound Discrimination is an element of Auditory Perception and a part of Auditory Processing and refers to the particular skill of discerning differences among sounds. Sound Discrimination is subsumed under the categories of Phonological Processing and Auditory Processing within the COMPARES. See "Phonological Processing," "Auditory Perception" and "Auditory Processing" in Glossary.

Key Authors In Their Own Words:	
Speech Sounds Discrimination (US): The ability to detect and discriminate differences in speech sounds (other than phonemes) under conditions of little distraction or distortion.	Flanagan et al., 2013
Resistance to Auditory Stimulus Distortion (UR): The ability to hear words correctly even under conditions of distortion or loud background noise.	Flanagan et al., 2013

Specific Learning Disability (as it is related to processing areas)

The Federal definition of "Specific Learning Disability" related to processing areas states that 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 an 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." The definition also states, "The term does not include learning problems that are primarily the result of visual, hearing, or motor disabilities, of intellectual disabilities, of emotional disturbance, or of environmental, cultural, or economic disadvantage." *P.L. 108-476 (IDEA), Title 34, CFR 300.8(c)(10)*

The complete California definition of "Specific Learning Disability" may be reviewed at the SELPA website (*Special Education Eligibility Guidelines*). In regard to processing areas, the California Code of Regulations states that, "A pupil has a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an *impaired* ability to listen, think, speak, read, write, spell, or do mathematical calculations, and has a severe discrepancy between intellectual ability and achievement in one or more of the *academic* areas specified in *Section 56337(a) of the Education Code*. For the purpose of *Section 3030(b)(10)*: (1) Basic psychological processes include attention, visual processing, auditory processing, sensory-motor skills, cognitive abilities including association, conceptualization and expression."

Visual Discrimination

Visual Discrimination is an element of Visual Perception and a part of Visual Processing and refers to the particular skill of discerning likenesses and differences to distinguish among visually-presented prompts, considering variations in size, shape, pattern, form, position, orientation, or color, despite the presence of distracting visual information. Visual Discrimination is subsumed under the category of Visual-Spatial Processing within the COMPARES. See "Visual Processing" and "Visual-Spatial Processing."

Key Authors In Their Own Words:	
Flexibility of Closure (CF): The ability to identify a visual figure or pattern embedded in a complex distracting visual pattern or array, when one knows in advance what the pattern is.	Flanagan et al., 2013

Visual Memory

Visual Memory is remembering what has been seen, with a focus on static features of the object, such as shape and color. Variously called Visual Memory, Visual Short-Term Memory, Visual Working Memory, Visuospatial Memory, Visuospatial Short-term Memory, Visuospatial Working Memory, Long-Term Visual Memory, Orthographic Memory, and similar terms, Visual Memory may be found in the COMPARES under Visual Processing as well as under Cognitive Abilities: Memory. See also "Memory" and particular types of memory in Glossary.

Key Authors In Their Own Words:

The main distinction between visuospatial short-term memory and visuospatial working memory is that the short-term component involves only passive retention of information, whereas visuospatial working memory adds a processing component, such as reversing the sequence of objects or manipulating an image.	Dehn, 2010
Visuospatial short-term memory is another passive short-term memory subcomponent that briefly stores visual (object and color) and spatial (location and direction) information. Visuospatial information is refreshed automatically and continually as objects in the environment change and as the focus of attention changes.	Dehn, 2008
Visuospatial Working Memory, another aspect of working memory operations, combines visuospatial information held in both short- and long-term working memory. For example, visuospatial working memory is involved whenever images are being manipulated.	Dehn, 2008
Visual Memory: (MV): The ability to remember complex visual images over short periods of time (less than 30 seconds).	Flanagan et al., 2013
Visual Memory (MV): Ability to form and store a mental representation or image of a visual shape or configuration (typically during a brief study period), over at least a few seconds, and then recognize or recall it later (during the test phase).	Newton & McGrew, 2010

Visual-Motor Skills

Visual-Motor Skills refers to the use of the eyes (visual-perceptual component) and hands (motor component) working together to perform a task. Visual-Motor Integration, commonly referred to as Eye-Hand Coordination, is the ability to integrate visual input successfully with motor output. See "Fine Motor Skills," "Graphomotor Skills," "Psychomotor Abilities," "Sensorimotor Speed," and "Sensory-Motor Skills."

Visual Perception

Visual Perception is the mental/psychological process of deriving meaning from visual stimuli and using the visual information for the purpose of learning. See "Visual Processing" and "Visual-Spatial Processing."

Visual Processing

Visual Processing is the mental/psychological construct defined by cognitive mechanisms that are involved in the retention, processing, and organization of visual information so as to demonstrate accurate perception, as distinct from visual acuity. This type of cognitive processing ability involves the ability to generate, perceive, analyze, synthesize, manipulate, and transform visual patterns and stimuli. Measures of the visual process may include factors such as spatial awareness, visual-perceptual skills, perceptual organization, visual mental manipulation, and perceptual discrimination. Visual Processing is subsumed under the category of Visual-Spatial Processing in the COMPARES. Visual Processing is listed as a "basic psychological process" by California Education Code (California Department of Education: Section 3030(b)(10), Title 5, CCR). Visual-Spatial Processing matures early, after gradual development and is associated with the Occipital, Parietal, and Temporal lobes of the brain (Dehn, 2014a). See "Visual-Spatial Processing," "Orthographic Processing," "Visual Memory," "Visual Processing Speed," and "Processing Speed" in Glossary.

Key Authors In Their Own Words:	
[Visual-Spatial Processing is] The ability to perceive, analyze, synthesize, manipulate, and transform visual patterns and images, including those generated internally. The visual aspect applies to processing static characteristics of an image. The spatial component processes location and	Dehn, 2014a

movement.	
Ability to analyze and synthesize visual information.	Flanagan et al., 2013
The ability to make use of simulated mental imagery (often in conjunction with currently perceived images) to solve problems.	Flanagan et al., as cited in Schneider & McGrew, 2012
The ability to generate, store, retrieve, and transform visual images and sensations. Gv abilities are typically measured by tasks (viz., figural or geometric stimuli) that require the perception and transformation of visual shapes, forms, images, and/or tasks that require maintaining spatial orientation with regard to objects that may change or move through space	Newton & McGrew, 2010

Visual Processing Speed

Visual Processing Speed is Processing Speed as applied to perception of visual stimuli. In the COMPARES, Visual Processing Speed is subsumed under "Processing Speed," as most current measures of processing speed include a visual component. See "Processing Speed."

Key Authors In Their Own Words:	
Perceptual Speed (P): The ability with which visual stimuli can be compared for similarity or difference.	Flanagan et al., 2013
Closure Speed (CS): The ability to quickly identify a familiar meaningful visual object from incomplete (e.g., vague, partially obscured, disconnected) visual stimuli, without knowing in advance what the object is.	Flanagan et al., 2013

Visual-Spatial Memory

Visual-Spatial Memory refers to remembering visual and spatial information, including both visual aspects (such as an object's shape and color) and spatial aspects (such as an object's location, position, motion, or direction). Although meanings differ among these terms, Visual- Spatial Memory is variously known as Visual Memory, Spatial Memory, Visual-Spatial Memory, Visual-Spatial Short-Term Memory, Visual-Spatial Working Memory, Visuospatial Memory, Visuospatial Short-Term Memory, and Visuospatial Working Memory. See "Memory" and particular types of memory in Glossary.

Key Authors In Their Own Words:	
Visual-spatial short-term memory involves the immediate storage of visual and spatial information, such as objects and their location (Dehn, 2008)…The visual subcomponent is responsible for storage of static visual information (i.e., information about objects' shape and color), and the spatial subcomponent is responsible for the storage of dynamic spatial information (e.g., information about location, motion, and direction)."	Dehn, 2014a
The main distinction between visual-spatial short-term memory and visual-spatial working memory is that the short-term component involves only passive retention of information, whereas visual-spatial working memory adds a processing component, such as reversing the sequence of objects of manipulating an image (Dehn, 2008). Visual- spatial working memory is involved in the generation, manipulation, and maintenance of visual imagery (Gathercole & Baddeley, 1993).	Dehn, 2014a
Visual Memory (MV): The ability to remember complex visual images over short periods of time (less than 30 seconds).	Flanagan et al., 2013

Visual-Spatial Processing

Visual-Spatial Processing includes both visual processing and spatial processing. A pure measure of visual-spatial processing does not load on problem-solving, which would instead tap into Fluid Reasoning. Visual Processing is listed as a "basic psychological process" by California Education Code (California Department of Education: Section 3030(b)(10), Title 5, CCR) and is subsumed under the category of Visual-Spatial Processing in the COMPARES. Visual- Spatial Processing matures early, after gradual development and is associated with the Occipital, Parietal, and Temporal lobes of the brain (Dehn, 2014a).

Key Authors In Their Own Words:	
Visual-spatial processing refers to the ability to perceive, analyze, synthesize, manipulative, and transform visual patterns and images, including those generated internally. The visual and spatial dimensions are easily differentiated. The visual aspect involves processing of stimulus characteristics, such as shape and color. The spatial dimension processes the location and movement of visual stimuli; for example, mental rotation of an image requires spatial processing	Dehn, 2013
[Visualization is] The ability to perceive complex patterns and mentally simulate how they might look when transformed (e.g., rotated, changed in size, partially obscured).	Flanagan et al., 2013

Working Memory

Working Memory involves simultaneously holding in memory and manipulating information, whether the remembered stimuli are auditory-verbal-phonological or visual-spatial or both. While the term "Working Memory" is sometimes used synonymously with "Short-Term Memory" in conversation, this casual use fails to recognize an essential distinction between the two: Short-Term Memory involves holding and recalling information without performing any major transformational operations on it, whereas Working Memory specifically involves transforming the information in some way, such as re-ordering it, combining it in novel ways, or integrating the new information with previously learned information. In the COMPARES, Working Memory is found under the Memory section of Cognitive Abilities, as well as under Auditory Memory, Visual Memory, and Executive Functions. Working Memory matures late, after gradual development, and is associated with the Frontal, Parietal, Temporal, and Occipital lobes of the brain. In the Glossary, see "Memory," "Short-Term Memory," "Auditory Memory," "Phonological Memory," "Visual Memory," "Visual-Spatial Memory," and "Executive Working Memory."

Key Authors In Their Own Words:	
The limited capacity to retain information while simultaneously processing the same or other information for a short period. In the model adopted in this book, short-term memory is considered a subcomponent of working memory.	Dehn, 2014a
Working memory is the ability to briefly retain information while simultaneously processing the same or other information. In the classroom, working memory is required for such activities as mental arithmetic, taking notes while listening, and comprehending while reading. Essentially, working memory is the combination of cognitive processing and short-term storage of information.	Dehn, 2014b

In this text, working memory is defined as the management, manipulation, and transformation of information drawn from short-term and long-term memory…working memory is a cognitive process whose primary function is to facilitate and enhance the capacity of encoding, storage, and retrieval functions that are essential for learning and higher level processing of information.	Dehn, 2008
Working Memory Capacity (MW): The ability to direct the focus of attention to perform relatively simple manipulations, combinations, and transformations of information within primary memory while avoiding distracting stimuli and engaging in strategic/controlled searches for information in secondary memory.	Flanagan et al., 2013

Language Difference Versus Learning Disability		
Learning Behavior Manifested	**Indicators of a Language Difference Due to Second Language Acquisition**	**Indicators of a Possible Learning Disability (When Compared to Like Peers)**
Oral Comprehension/Listening		
1. Student does not respond to verbal directions	1. Student lacks understanding of vocabulary in English but is demonstrates understanding in L1 (first language)	1. Student consistently demonstrates confusion when given verbal directions in L1 and L2 (second language); *may be due to processing deficit or low cognition*
2. Student needs frequent repetition of oral directions and input	2. Student is able to understand verbal directions in L1 but not L2	2. Student often forgets directions or needs further explanation in L1 and L2 (at home and school); *may be due to an auditory memory difficulty or low cognition*
3. Student delays responses to questions	3. Student may be translating question in mind before responding in L2; gradual improvement seen over time	3. Student consistently takes a longer time period to respond in L1 and L2 and it does not change over time; *may be due to a processing speed deficit*
Speaking / Oral Fluency		
1. Student lacks verbal fluency (e.g., pauses, hesitates, omits words)	1. Student lacks vocabulary, sentence structure, and/or self-confidence	1. Speech is uncomprehensible in L1 and L2; *may be due to hearing or speech impairment*
2. Student is unable to orally retell a story	2. Student does not comprehend story due to a lack of understanding and background knowledge in English	2. Student has difficulty retelling a story or event in L1 and L2; *student may have memory or sequencing deficits*
3. Does not orally respond to questions or does not speak much	3. Lacks expressive language skills in English; it may the silent period in second language acquisition	3. Student speaks little in L1 or L2; *student may have a hearing impairment or processing deficit*

Phonemic Awareness/Reading		
1. Student does not remember letters sounds from one day to the next	1. Student will initially demonstrate difficulty remembering letter sounds in L2 since they differ from the letter sounds in L1, but with repeated practice over time will make progress	1. Student doesn't remember letters sounds after initial and follow-up instruction (even if they are common between L1/L2); *may be due to due a visual/auditory memory deficit or low cognition*
2. Student is unable to blend letter sounds in order to decode words in reading	2. The letter sound errors may relate to L1 (for example, L1 may not have long and short vowel sounds); with direct instruction, student will make progress over time	2. Student makes letter substitutions when decoding not related to L1; student cannot remember vowel sounds; student may be able to decode sounds in isolation, but is unable to blend the sounds to decode whole word; *may be due to a processing or memory deficit*
3. Student is unable to decode words correctly	3. Sound not in L1, so unable to pronounce word once decoded	3. Student consistently confuses letters/words that look alike; makes letter reversals, substitutions, etc. that are not related to L1; *may be processing or memory deficit*
Reading Comprehension and Vocabulary		
1. Student does not understand passage read, although may be able to read w/ fluency and accuracy	1. Lacks understanding and background knowledge of topic in L2; is unable to use contextual clues to assist with meaning; improvement seen over time as L2 proficiency increases	1. Student doesn't remember or comprehend what was read in L1 or L2 (only applicable if student has received instruction in L1); this does not improve over time; *may be due to a memory or processing deficit*
2. Does not understand key words/phrases; poor comprehension	2. Lacks understanding of vocabulary and meaning in English	2. The student's difficulty with comprehension and vocabulary is seen in L1 and L2

Writing		
1. Errors made with punctuation/capitalization	1. The error patterns seen are consistent with the punctuation and capitalization rules for L1; student's work tends to improve with appropriate instruction in English	1. Student consistently makes capitalization and punctuation errors even after instruction or is inconsistent; *may be due to deficits in organization, memory or processing*
Handwriting		
1. Student is unable to copy words correctly	1. Lack of experience with writing the English alphabet	1. Student demonstrates difficulty copying visual material (including shapes, letters, etc.); *may be due to a visual/motor or visual memory deficit*
2. Student has difficulty writing grammatically correct sentences	2. Student's syntax is reflective of writing patterns in L1; typical error patterns seen in second language learners (verb tense, use of adverbs or adjectives); improves over time	2. The student makes more random errors such as words omissions, missing punctuation; grammar errors are not correct in L1 or L2; *may be due to a processing or memory deficit*
3. Student has difficulty generating a paragraph or writing essays but is able to express his or her ideas orally	3. Student is not yet proficient in writing English even though they may have developed verbal skills; student makes progress over time and error patterns are similar to other second language learners	3. The student seems to have difficulty paying attention or remembering previously learned information; the student may seem to have motor difficulties and avoids writing; *student may have attention or memory deficits*
Spelling		
1. Student misspells words	1. Student will "borrow" sounds from L1; progress seen over time as L2 proficiency increases	1. Student makes errors such as writing the correct beginning sound of words and then random letters or correct beginning or ending sounds; *may be due to a visual memory or processing deficit*
2. Student spells words incorrectly; letters are sequenced incorrectly	2. Writing of words is reflective of English fluency level or cultural thought patterns; words may align to letter sounds or patterns of L1 (sight words may be spelled phonetically based on L1)	2. The student makes letter sequencing errors such as letter reversals that are not consistent with L1 spelling patterns; *may be due to a processing deficit*
Mathematics		
1. Student manifests difficulty learning math facts and/or math operations	1. Student lacks comprehension of oral instruction in English; student shows marked improvement with visual input or instructions in L1	1. Student has difficulty memorizing math facts from one day to the next and requires manipulatives or devices to complete math problems; *may have visual memory or processing deficits*

3. Student has difficulty completing multiple-step math computations	2. Student lacks comprehension of oral instruction in English; student shows marked improvement with visual input or instructions in L1	2. Student forgets the steps required to complete problems from one day to the next even with visual input; student reverses or forgets steps; *may be due to a processing or memory deficit*
3. Student is unable to complete word problems	3. Student does not understand mathematical terms in L2 due to English reading proficiency; student shows marked improvement in L1 or with visuals	3. Student does not understand how to process the problem or identify key terms in L1 or L2; *may be a processing deficit/reading disability*
Behavior		
1. Student appears inattentive and/or easily distracted	1. Student does not understand instructions in English due to level of proficiency	1. Student is inattentive across environments even when language is comprehensible; *may have attention deficits*
2. Student appears unmotivated and/or angry; may manifest internalizing or externalizing behavior	2. Student does not understand instruction due to limited English and does not feel successful; student has anger or low self-esteem related to second language acquisition	2. Student does not understand instruction in L1 or L2 and across contexts; *may be frustrated due to a possible learning disability*
3. Student does not turn in homework	3. Student may not understand directions or how to complete the homework due to lack of English proficiency; student may not have access to homework support at home	3. Student seems unable to complete homework consistently even when offered time and assistance with homework during school; *may be due to a memory or processing deficit*

Federal and State Regulations Related to Specific Learning Disability (SLD) Eligibility

Code of Federal Regulations

34 CFR 300.8 Child with a disability.

* * * (c) *Definitions of disability terms*. The terms used in this definition of a child with a disability are defined as follows: * * * (10) *Specific learning disability*--

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

(ii) *Disorders not included*. Specific learning disability does not include learning problems that are primarily the result of visual, hearing, or motor disabilities, of Intellectual disability, of emotional disturbance, or of environmental, cultural, or

economic disadvantage. * * *

Additional Procedures for Identifying Children with Specific Learning Disabilities:

34 CFR 300.307 Specific learning disabilities.

(a) General. A State must adopt, consistent with § 300.9, criteria for determining whether a child has a specific learning disability as defined in § 300.8(c)(10). In addition, the criteria adopted by the State--
(1) Must not require the use of a severe discrepancy between intellectual ability and achievement for determining whether a child has a specific learning disability, as defined in § 300.8(c)(10);
(2) Must permit the use of a process based on the child's response to scientific, research-based intervention; and
(3) May permit the use of other alternative research-based procedures for determining whether a child has a learning disability, as defined in § 300.8(c)(10).
(b) Consistency with State criteria. A public agency must use the State criteria adopted pursuant to paragraph (a) of this section in determining whether a child has a specific learning disability.

34 CFR 300.308 Additional group members.

The determination of whether a child suspected of having a specific learning disability is a child with a disability as defined in § 300.8, must be made by the child's parents and a team of qualified professionals, which must include--
(a)(1) The child's regular teacher; or
(2) If the child does not have a regular teacher, a regular classroom teacher qualified to teach a child of his or her age; or
(3) For a child of less than school age, an individual qualified by the SEA to teach a child of his or her age; and
(b) At least one person qualified to conduct individual diagnostic examinations of children, such as a school psychologist, speech-language pathologist, or remedial reading teacher
34 CFR 300.309 Determining the existence of a specific learning disability.

(a) The group described in § 300.306 may determine that a child has a specific learning disability, as defined in § 300.8(c)(10), if--
(1) The child does not achieve adequately for the child's age or to meet State-approved grade- level standards in one or more of the following areas, when provided with learning experiences and instruction appropriate for the child's age or State-approved grade-level standards:
(i) Oral expression.
(ii) Listening comprehension.
(iii) Written expression.
(iv) Basic reading skill.

(v) Reading fluency skills.
(vi) Reading comprehension.
(vii) Mathematics calculation.
(viii) Mathematics problem solving.
(2)(i) The child does not make sufficient progress to meet age or State-approved grade-level standards in one or more of the areas identified in paragraph (a)(1) of this section when using a process based on the child's response to scientific, research-based intervention; or
(ii) The child exhibits 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 group to be relevant to the identification of a specific learning disability, using appropriate assessments, consistent with §§ 300.304 and 300.305; and (3) The group determines that its findings under paragraphs (a)(1) and (2) are not primarily the result of--
(i) A visual, hearing, or motor disability;
(ii) Mental retardation; (California Ed Code terminology is Intellectual Disability)
(iii) Emotional disturbance;
(iv) Cultural factors;
(v) Environmental or economic disadvantage; or
(vi) Limited English proficiency.
(b) To ensure that underachievement in a child suspected of having a specific learning disability is not due to lack of appropriate instruction in reading or math, the group must consider, as part of the evaluation described in §§ 300.304 through 300.306--
(1) Data that demonstrate that prior to, or as a part of, the referral process, the child was provided appropriate instruction in regular education settings, delivered by qualified personnel; and
(2) Data-based documentation of repeated assessments of achievement at reasonable intervals, reflecting formal assessment of student progress during instruction, which was provided to the child's parents.
(3) The public agency must promptly request parental consent to evaluate the child to determine if the child needs special education and related services, and must adhere to the timeframes described in §§ 300.301 and 300.303, unless extended by mutual written agreement of the child's parents and a group of qualified professionals, as described in §300.306(a)(1)-- If, prior to a referral, a child has not made adequate progress after an appropriate period of time when provided instruction, as described in paragraphs (b)(1) and (b)(2) of this section; and
(4) Whenever a child is referred for an evaluation.

34 CFR 300.310 Observation.

(a) The public agency must ensure that the child is observed in the child's learning environment (including the regular classroom setting) to document the child's academic performance and behavior in the areas of difficulty.
(b) The group described in § 300.306(a)(1), in determining whether a child has a specific learning disability, must decide to--
(1) Use information from an observation in routine classroom instruction and

monitoring of the child's performance that was done before the child was referred for an evaluation; or

(2) Have at least one member of the group described in § 300.306(a)(1) conduct an observation of the child's academic performance in the regular classroom after the child has been referred for an evaluation and parental consent, consistent with § 300.300(a), is obtained.

(c) In the case of a child of less than school age or out of school, a group member must observe the child in an environment appropriate for a child of that age.

34 CFR 300.311 Specific documentation for the eligibility determination.

(a) For a child suspected of having a specific learning disability, the documentation of the determination of eligibility, as required in § 300.306(a)(2), must contain a statement of--

(1) Whether the child has a specific learning disability;

(2) The basis for making the determination, including an assurance that the determination has been made in accordance with § 300.306(c)(1);

(3) The relevant behavior, if any, noted during the observation of the child and the relationship of that behavior to the child's academic functioning;

(4) The educationally relevant medical findings, if any;

(5) Whether--

(i) The child does not achieve adequately for the child's age or to meet State-approved grade- level standards consistent with § 300.309(a)(1); and

(ii) (A) The child does not make sufficient progress to meet age or State-approved grade-level standards consistent with § 300.309(a)(2); or

(B) The child exhibits a pattern of strengths and weaknesses in performance, achievement, or both, relative to age, State-approved grade-level standards or intellectual development consistent with § 300.309(a)(2)(ii);

(6) The determination of the group concerning the effects of a visual, hearing, or motor disability; mental retardation; emotional disturbance; cultural factors; environmental or economic disadvantage; or limited English proficiency on the child's achievement level; and

(7) If the child has participated in a process that assesses the child's response to scientific, research-based intervention--

(i) The instructional strategies used and the student-centered data collected; and

(ii) The documentation that the child's parents were notified about--

(A) The State's policies regarding the amount and nature of student performance data that would be collected and the general education services that would be provided;

(B) Strategies for increasing the child's rate of learning; and (C) The parents' right to request an evaluation.

(b) Each group member must certify in writing whether the report reflects the member's conclusion. If it does not reflect the member's conclusion, the group member must submit a separate statement presenting the member's conclusions.

34 CFR 300.311 Specific documentation for the eligibility determination.

(c) For a child suspected of having a specific learning disability, the documentation of the determination of eligibility, as required in § 300.306(a)(2), must contain a statement of--
(1) Whether the child has a specific learning disability;
(2) The basis for making the determination, including an assurance that the determination has been made in accordance with § 300.306(c)(1);
(3) The relevant behavior, if any, noted during the observation of the child and the relationship of that behavior to the child's academic functioning;
(4) The educationally relevant medical findings, if any;
(5) Whether--
(i) The child does not achieve adequately for the child's age or to meet State-approved grade- level standards consistent with § 300.309(a)(1); and
(ii) (A) The child does not make sufficient progress to meet age or State-approved grade-level standards consistent with § 300.309(a)(2); or
(B) The child exhibits a pattern of strengths and weaknesses in performance, achievement, or both, relative to age, State-approved grade-level standards or intellectual development consistent with § 300.309(a)(2)(ii);
(6) The determination of the group concerning the effects of a visual, hearing, or motor disability; mental retardation; emotional disturbance; cultural factors; environmental or economic disadvantage; or limited English proficiency on the child's achievement level; and
(7) If the child has participated in a process that assesses the child's response to scientific, research-based intervention--
(i) The instructional strategies used and the student-centered data collected; and
(ii) The documentation that the child's parents were notified about--
(C) The State's policies regarding the amount and nature of student performance data that would be collected and the general education services that would be provided;
(D) Strategies for increasing the child's rate of learning; and (C) The parents' right to request an evaluation.
(d) Each group member must certify in writing whether the report reflects the member's conclusion. If it does not reflect the member's conclusion, the group member must submit a separate statement presenting the member's conclusions.

State of California Regulation References

California Education Code
56337. (a) A specific learning disability, as defined in Section 1401(30) of Title 20 of the United States Code, means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or perform mathematical calculations. The term "specific learning disability" includes conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. That term does not include a learning problem that is primarily the result of visual, hearing, or motor disabilities, of intellectual

disabilities, of emotional disturbance, or of environmental, cultural, or economic disadvantage.

(b) Notwithstanding any other law and pursuant to Section 1414(b)(6) of Title 20 of the United States Code, in determining whether a pupil has a specific learning disability as defined in subdivision(a), a local educational agency is not required to take into consideration whether a pupil has a severe discrepancy between achievement and intellectual ability in oral expression, listening comprehension, written expression, basic reading skill, reading comprehension, mathematical calculation, or mathematical reasoning.

(c) In determining whether a pupil has a specific learning disability, a local educational agency may use a process that determines if the pupil responds to scientific, research-based intervention as a part of the assessment procedures described in Section 1414(b)(2) and (3) of Title 20 of the United States Code and covered in Sections 300.307 to 300.311, inclusive, of Title 34 of the Code of Federal Regulations.

56337.5. (a) A pupil who is assessed as being dyslexic and meets eligibility criteria specified in Section 56337 and subdivision (b)(10) of Section 3030 of Title 5 of the California Code of Regulations for the federal Individuals with Disabilities Education Act (20 U.S.C. Sec. 1400 and following) category of specific learning disabilities is entitled to special education and related services.

(b) If a pupil who exhibits the characteristics of dyslexia or another related reading dysfunction is not found to be eligible for special education and related services pursuant to subdivision (a), the pupil's instructional program shall be provided in the regular education program.

(c) It is the intent of the Legislature that the program guidelines developed pursuant to Section 2 of Chapter 1501 of the Statutes of 1990, for specific learning disabilities, including dyslexia and other related disorders, be available for use by teachers and parents in order for them to have knowledge of the strategies that can be utilized with pupils for the remediation of the various types of specific learning disabilities.

56338. As used in Section 56337, "specific learning disability" includes, but is not limited to, disability within the function of vision which results in visual perceptual or visual motor dysfunction.

CCR Title 5 Section 3030 (b)(10)

Specific learning disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may have manifested itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The basic psychological processes include attention, visual processing, auditory processing, sensory-motor skills, cognitive abilities including association, conceptualization and expression.

(A) Specific learning disabilities do not include learning problems that are primarily the result of visual, hearing, or motor disabilities, of intellectual disability, of emotional disturbance, or of environmental, cultural, or economic disadvantage.

(B) In determining whether a pupil has a specific learning disability, the public agency may consider whether a pupil has a severe discrepancy between intellectual ability and achievement in oral expression, listening comprehension, written expression, basic reading skill, reading comprehension, mathematical calculation, or mathematical reasoning. The decision as to whether or not a severe discrepancy exists shall take into account all relevant material which is available on the pupil. No single score or product of scores, test or procedure shall be used as the sole criterion for the decisions of the IEP team as to the pupil's eligibility for special education. In determining the existence of a severe discrepancy, the IEP team shall use the following procedures:

1. When standardized tests are considered to be valid for a specific pupil, a severe discrepancy is demonstrated by: first, converting into common standard scores, using a mean of 100 and standard deviation of 15, the achievement test score and the intellectual ability test score to be compared; second, computing the difference between these common standard scores; and third, comparing this computed difference to the standard criterion which is the product of 1.5 multiplied by the standard deviation of the distribution of computed differences of students taking these achievement and ability tests. A computed difference which equals or exceeds this standard criterion, adjusted by one standard error of measurement, the adjustment not to exceed 4 common standard score points, indicates a severe discrepancy when such discrepancy is corroborated by other assessment data which may include other tests, scales, instruments, observations and work samples, as appropriate.

2. When standardized tests are considered to be invalid for a specific pupil, the discrepancy shall be measured by alternative means as specified on the assessment plan.

3. If the standardized tests do not reveal a severe discrepancy as defined in subdivisions 1. or 2. above, the IEP team may find that a severe discrepancy does exist, provided that the team documents in a written report that the severe discrepancy between ability and achievement exists as a result of a disorder in one or more of the basic psychological processes. The report shall include a statement of the area, the degree, and the basis and method used in determining the discrepancy. The report shall contain information considered by the team which shall include, but not be limited to:

(i) Data obtained from standardized assessment instruments;

(ii) Information provided by the parent;

(iii) Information provided by the pupil's present teacher;

(iv) Evidence of the pupil's performance in the regular and/or special education classroom obtained from observations, work samples, and group test scores;

(v) Consideration of the pupil's age, particularly for young children; and

(vi) Any additional relevant information.

4. A severe discrepancy shall not be primarily the result of limited school experience or poor school attendance.

(C) Whether or not a pupil exhibits a severe discrepancy as described in

subdivision (b)(10)(B) above, a pupil may be determined to have a specific learning disability if:

1. The pupil does not achieve adequately for the pupil's age or to meet State-approved grade-level standards in one or more of the following areas, when provided with learning experiences and instruction appropriate for the pupil's age or State-approved grade-level standards:

(i) Oral expression.
(ii) Listening comprehension.
(iii) Written expression.
(iv) Basic reading skill.
(v) Reading fluency skills.
(vi) Reading comprehension.
(vii) Mathematics calculation.

(viii) Mathematics problem solving, and

2.(i) The pupil does not make sufficient progress to meet age or State-approved grade-level standards in one or more of the areas identified in subdivision (b)(10)(C)(1) of this section when using a process based on the pupil's response to scientific, research-based intervention; or

(ii) The pupil exhibits 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 group to be relevant to the identification of a specific learning disability, using appropriate assessments, consistent with 34 C.F.R. sections 300.304 and 300.305; and

3. The findings under subdivisions (b)(10)(C)(1) and (2) of this section are not primarily the result of:

(i) A visual, hearing, or motor disability;
(ii) Intellectual disability;
(iii) Emotional disturbance;
(iv) Cultural factors;
(v) Environmental or economic disadvantage; or
(vi) Limited English proficiency.*

4. To ensure that underachievement in a pupil suspected of having a specific learning disability is not due to lack of appropriate instruction in reading or math, the group making the decision must consider:

(i) Data that demonstrate that prior to, or as a part of, the referral process, the pupil was provided appropriate instruction in regular education settings, delivered by qualified personnel; and

(ii) Data-based documentation of repeated assessments of achievement at reasonable intervals, reflecting formal assessment of student progress during instruction, which was provided to the pupil's parents.

5. In determining whether a pupil has a specific learning disability, the public agency must ensure that the pupil is observed in the pupil's learning environment in accordance with 34
C.F.R. section 300.310. In the case of a child of less than school age or out of school, a qualified professional must observe the child in an environment appropriate for a child of that age. The eligibility determination must be

documented in accordance with 34 C.F.R. section 300.311.

*refers to two more exclusionary factors which are Limited School Experience or Poor School Attendance and Lack of Appropriate Instruction in Reading or Math.

Appendix B

Worksheet / Forms Documents

San Mateo County SELPA
Pattern of Strengths and Weakness(PSW) Documentation of SLD Eligibility Form

Directions: This form is to be completed by the School Psychologist and attached to the IEP for students assessment for eligibility under the category of *Specific Learning Disability* (SLD) and/or included in the multi-disciplinary assessment report.

Method of PSW Analysis Utilized (√ One)	**Dehn**		**XBA / CLIM**	
Student Considerations	**Supporting Student Data Evidence**		**No**	**Yes**
1. Does Student demonstrate at least average overall cognitive ability (low average – high average)				
2. Does Student demonstrate at least or more cognitive weaknesses and overall *Pattern of Strengths and Weaknesses* (per Dehn or X-bass model or CLIM for EL Students)?				
3. Does Student demonstrate an academic weaknesses in one or more of the **8 IDEA SLD eligibility categories** (recommended below the 10th percentile or standard score of 88)? If so, list them to the right.				
4. Does the student demonstrate relatively low areas psychological processing? (If so, list them to the right.				
4. Is there a below average aptitude – achievement consistency (processing weakness aligns to low academic area(s)?				
5. Student requires specially designed instruction to access and make progress in the general education curriculum (intensive intervention has been ruled out)?				
6. Input from the parent supports evidence of a potential specific learning disability?				
7. Does observation of the Student support evidence of a potential specific learning disability that requires special education services?				
8. Based on the data above, it the **student meets the IDEA eligibility criteria for having a *Specific Learning Disability*** *that requires Special Education.*				

Signature of School Psychologist **Date**

Academic Weakness Pre-Referral Form

Directions: This form is to be completed by Teacher or Interventionist

Name of Student:		**School:**	
DOB		**Grade:**	
Person Completed by:		**Date Completed:**	
Role With Student:			

Directions for Use: This tool is primarily to be used as a *Pre-Referral* tool to help guide Student Study Teams in determining the weaknesses of a student that may need remediation prior to considering a referral to special education. Assessment teams may also find the information provided by this tool useful when completing their assessments.

I. ENGLISH LANGUAGE ARTS INVENTORY

Basic Reading (Phonemic Awareness, Phonetic Decoding and Orthography, and Fluency)	**Never**	**Some times**	**Always**
Phonemic Awareness (all auditory skills)			
Onset Fluency: Initial Phoneme Isolation			
Blending Phonemes into words			
Isolating Final Sound in words			
Segmenting words into phonemes			
Isolating Medial Sound in words			
Adding initial phonemes			
Deleting initial phonemes			
Substituting initial phonemes			
Phonetic Decoding			
Problem naming all the letters of the alphabet			
Problems blending two or more sounds			
Frequent mispronunciation of age-appropriate words			
Failure to identify the starting letters of own name			
Failure to identify the initial phoneme of own name			
Difficulty sounding out letters and bringing them back to the word			
Frequent long pauses between words			
Guesses unfamiliar words or decodes only the beginning of the word and guesses the end of the word			
Avoidance or behavior problems when asked to read			
Student struggles to decode multiple-syllabic words			
Orthography			
Spelling that demonstrates pre-phonetic relationships			

Spelling is highly phonetic and student struggles to spell irregular words			
Student struggles to spell multi-syllabic longer words			
Reading Fluency			
Problems accurately identifying individual letters			
Problems quickly associating a letter with a sound			
Increased effort when naming letters			
Substitution of words			
Difficulty using context to correctly identify words			
Frequent pauses in between words in connected text			
Frequently guesses at words			
Makes careless errors			
Difficulty reading simple connecting words such as *that, an, in, the, a*			
Oral reading that is choppy or dysfluent			
Missing phonemes in the middle or end of words			
Problems with reading words in isolation			
Inability to finish reading tasks in a reasonable amount of time			
Secondary: Student reads less than 90 words correct per minute (WCPM)			

Reading Comprehension	**Never**	**Some times**	**Always**
Difficulty understanding oral directions at an age/grade appropriate level			
Uses imprecise vocabulary			
Trouble remembering what was read			
Difficulty retelling a story			
Problems defining vocabulary			
Trouble recalling relevant detail from a passage			
Difficulty retelling a sequence of consecutive actions			
Problems drawing an accurate picture from an age appropriate orally presented story			
Problems with cloze or maze reading tasks			
Difficulty providing possible outcomes in a given unfinished story			
Problems identifying inconsistencies in a contrived story			
Problems sorting and sequencing randomized sentences from the same story (story anagram)			
Difficulty with inference tasks (providing missing elements, elaboration on detail, etc.)			
Difficulty understanding oral directions at an age/grade appropriate level			

Written Language	Never	Some times	Always
Poor format (spacing, paragraphs, indentation, margins, etc.)			
Trouble with spelling in context of writing			
Trouble with punctuation / capitalizations			
Does not correct mistakes (revising for content, mechanics, etc.)			
Uses imprecise or limited vocabulary in writing			
Trouble with correct grammar (i. e correct non-verb agreement, very tenses, etc.)			
Trouble with word order (syntax)			
Trouble with use of pronouns, articles, prepositions, etc.			
Demonstrates sentences fragments – incomplete sentences			
Sentences are simple but complete			
Poor narrative (consistent style, point of view, etc.)			
Uses poor semantics (words with wrong meaning)			
Problems with vocabulary (non-age appropriate words, not descriptive or imaginative)			
Difficulty staying on a topic related to the subject in a paragraph			
Poor organization (poor sequencing; paragraph topics confused, etc.)			

Oral Expression	Never	Some times	Always
Uses shorter, simple phrases or sentences than other same age peers			
Difficulty naming items and objects			
Use of jargon or made up words in speech			
Use of words in wrong order – does not make sense			
Frequent use of “um or “uh”			
Has limited vocabulary			
Word finding difficulties			
Student avoids social settings or does not join conversations			
Listening Comprehension	**Never**	**Some times**	**Always**
Difficulties telling where a sound is coming from			
Difficulties understanding words spoken			
Difficulties paying attention when spoken to or during lectures			
Difficulties following oral directions			
Difficulties understanding more complex language			
Weak vocabulary comprehension			

II. MATH INVENTORY

Math Calculations	Never	Some times	Always

Problems identifying individual numbers			
Problems with rapid number identification			
Delays in counting objects or object sets			
Errors with regrouping in addition			
Errors with trading in subtraction			
Requires repeated review of math facts to learn			
Difficulty processing multi-step problems			
Difficulty with association between amounts shown and the corresponding number			
Uses faulty or ineffective strategies for solving simple problems			
Makes 'careless' errors on computations			
Lack of understanding of concepts when engaging in problem solving			
Difficulty with comparisons of quantity, volume, or other measures			
Uses of assistive strategies / procedures for computations (finger counting, hash marks, touch math, etc.)			
Problems with remembering the sequence or order in computations			
Delayed response times on simple counting or computations			
Delayed reading development or poor phonemic awareness			

Math Problem Solving	**Never**	**Some times**	**Always**
Difficulty understanding the task and identifying operations needed			
Weak math estimation skills			
Unable to recognize very apparent errors			
Confuses operation terms such as sum, difference, etc.			
Trouble retaining process for common algorithms			
Difficulty explaining verbally how an answer was derived			
Errors in the order of computations applied to a problem-solving task			
Problems disregarding irrelevant items/numbers in word problems			
Problems with basic computations even when using a calculator			
Get anxious when required to perform story problems			
Takes a long time to solve problems			
Requires tactile or visual strategies such as finger counting, hash marks or touch math			

Comments:

Tiered Intervention Pre-Referral Checklist

Directions: To be completed by the referring teacher and provided to the Student Study Team (SST or other referral Team)

STUDENT NAME:		BIRTHDATE:	Age		Grade	
English Learner	☐ Yes ☐ No	If yes, English Proficiency Level:				
DISTRICT:		SCHOOL:				
TEACHER(S):		DATE:				

Directions: It is required that the ***referring teacher*** or party complete this Tiered Intervention Documentation Form as part of the referral process to determine if a referral to the Student Study Team is appropriate due to a suspected specific learning disability (SLD) for an English Learner. Submit the worksheet to the school psychologist as part of the referral for special education if one or more areas are checked "Yes" indicating MTSS - RtI is being implemented with fidelity.

1. Reading Instruction / Core Curriculum Has Been Implemented with Fidelity

☐ Accommodations have been made to the ELA common core curricular materials

☐ Yes ☐ No

☐ Extensions to core for English learners have been appropriately utilized and implemented (for ELs)

☐ Yes ☐ No

☐ Fidelity checks are in place to ensure effectiveness of core instruction and supplements to the CORE

☐ Yes ☐ No

☐ Evidence of *Universal Design for Learning* (UDL): Use of multiple means of *presenting, student expression of learning, and interacting/engagement* appropriate for Els and the student's literacy weakness have been implemented **☐ Yes ☐ No**

Describe:

☐ Documentation (grades, work samples, progress charts, etc.) is attached for each applicable area.

2. Universal Screening Has Been Implemented with Fidelity

A system of universal academic screening is in place for all students at the grade level of the student being referred. Academic screening has taken place. ☐ Yes ☐ No

If Yes, indicate in what academic areas below:

☐ Reading: ☐ Phonemic Awareness ☐ Phonics decoding

☐ Fluency ☐ Comprehension

☐ Written language: ☐ Mechanics ☐ Grammar

☐ Narrative formation ☐ Handwriting

☐ Oral Expression

☐ Listening Comprehension

☐ Mathematics: ☐ Mathematics Calculation

☐ Mathematics Problem Solving

If yes, indicate the assessment tools utilized and the results:

☐ Documentation is attached for each applicable area

5. Reading Interventions Via the Classroom or MTSS – RtI (pull-out or push in)

The student received evidence-based, intensive intervention implemented with fidelity over time indicated below:

☐ Intervention is provided in targeted area(s) of concern 4 to 5 days weekly ☐ Yes If not, how many sessions/week?_____

☐ Intervention is provided a minimum of 45 minutes per day in each area ☐ Yes If not, how many minutes/session?_____

☐ Ratio of students to adult did not exceed 1:4 in intervention ☐ Yes If no, what ratio?_____

If Yes to all of the above, indicate specific, targeted reading areas of concern that apply:

☐ Phonemic Awareness ☐ Phonetic Decoding ☐ Oral Reading Fluency

☐ Vocabulary

☐ Comprehension ☐ High Frequency Word Recognition.

Describe the intervention (s) and outcome data (or attach):

6. Progress Monitoring of Reading Intervention(s)

There is data regarding the rate of learning over time (compared to like peers receiving like intervention) – must attached data tracking records.

Name of tool(s) used:

☐ Ongoing, periodic assessment was used to make instructional decisions ☐ Yes ☐ No

☐ Specific target learning goals were set that were not met over time ☐ Yes ☐ No

☐ Student was present for 90% of the days of intervention provided ☐ Yes if not, percentage of time was the student in attendance?_____

☐ How many data points that were taken over time - a minimum of 2 each 8 week period is recommended)?_____

How did the student respond compared to other "like peers" participating in the intervention?

Describe:

☐ Documentation is attached for each applicable area

Name of person completing worksheet:			
Title:		Date:	

Multi-Disciplinary Assessment Team

***Specific Learning Disability (SLD)* Cross Battery Planning Tool**

Student Name:		**Date of Birth (DOB):**	
IEP Due Date:		**Informal Team Conference Date:**	
Proposed IEP Date:		**English Learner (yes/no):**	
School of Attendance:		**If Yes, English Proficiency Level:**	

Reason for Referral:

Taking into consideration the information from record reviews, observations, etc., as well as utilizing the ***COMPARES**** indicate which of the seven (7) CHC broad areas you believe may be strengths (S) or weaknesses (W) for this student. Include other areas of concern, if needed.

S	W	AREA OF PROCESSING
		Fluid Reasoning (Gf)
		Comprehension Knowledge (Gc)
		Long-Term Memory (Glr)
		Short-Term Memory (Gsm)
		Visual Processing (Gv)
		Auditory Processing (Ga)
		Processing Speed (Gs)

*Comprehensive Organizational Matrix of Processing-Achievement Relations, Evaluating Significance

Assessment Category	Assessment Area	Assess Area(s)	Person Responsible to Complete	Tools/ Subtests to Use
Observations	Observation 1			
	Observation 2 (optional)			
Processing: CHC Broad Abilities	Fluid Reasoning (Gf)			
	Comprehension Knowledge			
	Long-Term Memory (Glr)			
	Short-Term Memory (Gsm)			
	Visual Processing (Gv)			
	Auditory Processing (Ga)			
	Processing Speed (Gs)			
Optional Processing Areas	Orthographic Processing			
	Executive Functioning			
	Cognitive Efficiency			
	Speed of Lexical Access			
	Psychomotor Abilities			
	Attention			
	Other:			
	Oral Expression			
	Listening Comprehension			
	Written Expression			

Academic Achievement Areas	Basic Reading Skills			
	Reading Fluency			
	Reading Comprehension			
	Math Calculation			
	Math Problem Solving			
Other Areas to Assess				

Comments:

XBA Seven Core Broad Abilities Inventory Tool

Seven Core Broad Abilities	Narrow Abilities	Assessment Tools I Have Access to In Order to Assess
Comprehension / Knowledge (formerly crystalized intelligence) is defined as the depth and breadth of knowledge and skills that are valued by one's culture. It includes the ability to use speech to communicate thoughts clearly as well as general understanding of spoken language.	LD--*Language Development*: General development or understanding of words, sentences, and paragraphs in spoken language.	
	VL--*Lexical Knowledge*: The extent of vocabulary in terms of correct word meanings.	
	LS--*Listening Ability:* The ability to listen and comprehend oral communications.	
	CM--*Communication Ability*: The ability to speak in 'real life' situations in an adult-like manner.	
	MY--*Grammatical Sensitivity*: Knowledge or awareness of the grammatical features of language.	
	KO--*General (verbal) Information:* The range of general knowledge.	
Fluid Intelligence is the deliberate but flexible control of attention to solve novel, on-the-spot problems that cannot be performed by relying exclusively on previously learned habits,	RG--*General Sequential Reasoning*: The ability to start with stated rules, premises, or conditions, and to engage in one or more steps to solve a novel problem (also called *deduction*).	
	I--*Induction*: The ability to discover the underlying rule, concept, etc. that govern a problem.	
	RQ--*Quantitative Reasoning*: The ability to inductively and deductively reason with concepts involving math relations and properties.	

schemas, and scripts.		
Long-term Storage and Retrieval refers to the ability to store, consolidate, and retrieve information over periods of time measured in minutes, hours, days and years.	MA--*Associative Memory:* The ability to recall one part of a previously learned but unrelated pair of items when the other part is presented.	
	MM -*Meaningful Memory*: The ability to recall items with a meaningful relation or the items comprise a meaningful story or connected discourse.	
	M6-*Free Recall Memory*: Ability to recall as many unrelated items as possible, in any order, after a large collection of items is presented.	
	FI--*Ideational Fluency*: The ability to produce a series of related ideas, words, etc.	
	FF--*Figural Fluency*: The ability to draw examples when given a starting example or description.	

Seven Core Broad Abilities	Narrow Abilities	Assessment Tools I Have Access to In Order to Assess
	NA--*Naming Facility*: Ability to rapidly produce names for concepts when presented with a pictorial or verbal cue (RAN).	
	FW--*Word Fluency*: Ability to rapidly produce words that have specific phonemic, structural, or orthographic characteristics (independent of word meaning).	
Short-term Memory is the ability to encode, maintain, and manipulate information in one' immediate awareness. includes both memory span and working memory skills.	MS--*Memory Span*: The ability to attend to, and immediately recall elements in the correct order.	
	WM--*Working Memory*: The ability to temporarily store and perform operations on information that requires divided attention and the management of limited capacity of short term memory.	

Visual Processing is the ability to make use of simulated mental imagery to solve problems.	Vz--*Visualization*: The ability to mentally manipulate objects or patterns.	
	SR—*Speeded Rotation*: The ability to solve problems quickly using mental rotation of simple images.	
	CS--*Closure Speed*: The ability to quickly combine disconnected visual information into a meaningful whole.	
	MV--*Visual Memory:* The ability to store visual information and recall it later.	
	SS--*Spatial Scanning:* The ability to survey a pattern and identify a path through that pattern.	
	CF--*Flexibility of Closure*: The ability to identify a visual pattern embedded within a complex visual array.	
Auditory Processing is the ability to detect and process meaningful nonverbal information in sound.	PC--*Phonetic Coding* The ability to code, process and be sensitive to the nuances in phonetic information (speech sounds) in short term memory. Includes the ability to identify, isolate, blend or transform sounds of speech.	
	UR--*Resistance to Auditory Stimulus Distortion*: The ability to understand speech that has been distorted.	
	UL--*Sound Localization:* The ability to localize heard sounds in space.	

Seven Core Broad Abilities	Narrow Abilities	Assessment Tools I Have Access to In Order to Assess
	US--*Speech Sound Discrimination*: The ability to detect differences in speech sounds under conditions of little distraction or distortion.	
	U1/9--*Musical Discrimination and Judgment*: Ability to discriminate and judge tonal patterns in music with respect to melodic, harmonic, and expressive aspects (e.g., phrasing, tempo, intensity variations).	

Processing Speed is the ability to perform simple, repetitive cognitive tasks quickly and fluently.	P--*Perceptual Speed*: Ability to rapidly search for and compare known visual symbols or patterns presented side-by side or separated in a visual field.	
	R9--*Rate of Test Taking*: Ability to rapidly perform tests that are relatively easy or that require very simple decisions.	
	N--*Number Facility*: Ability to rapidly and accurately manipulate and deal with numbers, from elementary skills to advanced skills.	
Optional Processing Areas *(this list is not comprehensive. See XBASS Software* for more information on additional processing areas)		Assessment Tools I Have to Assess this Area
	Executive Functions regulate behavior and cognitive functions during purposeful, goal-directed, and problem-solving.	
	Orthographic Processing involves using the visual system to form, store, and recall words.	
	Speed of Lexical Access refers to the ability to rapidly and fluently retrieve words from an individual's lexicon: verbal efficiency or automaticity of lexical access.	
	Cognitive Efficiency refers to the ability to process information automatically.	

San Mateo County SELPA Pattern of Strengths and Weaknesses Assessment Process for Multi-Lingual English Learners

Assessment of English Learner Students (Spanish Native/Heritage Language)				
	Scenario 1	**Scenario 2**	**Scenario 3**	**Scenario 4**
Linguistic Background	Native Language is Spanish	Native/Heritage Language is Spanish	Native/Heritage Language is Spanish	Native/Heritage Language is **Not** Spanish
	Some past Instruction in Native Language	**No past** Native Language Instruction	**No past** Native Language Instruction	
Interview/ Observe	Engage in parent and staff interviews and ecological observations in multiple environments	Engage in parent and staff interviews and ecological observations in multiple environments	Engage in parent and staff interviews and ecological observations in multiple environments	Engage in parent and staff interviews and ecological observations in multiple environments
Level of Native Language	Evidence of Ongoing Native Language Use Over Time	Evidence of **Some** level of Ongoing Native Language Use Over Time	Evidence of **Limited** level of ongoing use of Native Language	
Assess Dominant Language (e.g. WJ-IV Oral Language, TAPS, WJ Munoz, etc.)	Assessment results indicate the dominant language is Spanish or Commensurate with English	Results indicate English is dominant with some some skills evident in Native/Heritage Language	Results indicate English is dominant with little to no skills evident in Native/Heritage Language	Assess dominant language informally (use an interpreter in the Native/Heritage Language)
Cognitive Evaluation (evaluate in all 7 areas)	Assess Cognition in English in all areas of suspected disability. Do **NOT** administer only non-verbal instruments	Assess Cognition in English in all areas of suspected disability. Do **NOT** administer only non-verbal instruments	Assess Cognition in English in all areas of suspected disability. Do **NOT** administer only non-verbal instruments	Assess Cognition in English in all areas of suspected disability in a standardized way (bilingual assessor, use of interpreter)
Academic Evaluation (evaluate in all 8 areas)	Assess Academics in English	Assess Academics in English	Assess Academics in English	Assess Academics in English with the use of an interpreter if needed and note this in the report
Analyze Performance	Enter Data from English	Enter Data from English	Enter Data from English	Enter Data from English

for cultural and linguistic factors	administered subtests into C-LIM (XBASS w/ C-LIM)	administered subtests into C-LIM (XBASS w/ C-LIM)	administered subtests into C-LIM (XBASS w/ C-LIM)	administered subtests into C-LIM (XBASS w/ C-LIM)
C-LIM Validity	Valid Findings: No need to complete evaluations in native/heritage language (NOTE: some level of native language assessment must be conducted per federal and state guidelines) Invalid Findings: Follow up with Native/Heritage Language Evaluation (below)	Valid Findings: No need to complete evaluations in native/heritage language; (NOTE: some level of native language assessment must be conducted per federal and state guidelines) Invalid Findings: Follow up with Native/Heritage Language Evaluation (below)	Valid Findings: No need to complete evaluations in native/heritage language; (NOTE: some level of native language assessment must be conducted per federal and state guidelines) Invalid Findings: Student may have mixed dominance or lack a dominant language; utilize and rely more heavily on ecological and other alternative data sources	Valid Findings: No need to complete evaluations in native/heritage language (note in assessment report that it was not "feasible" to assess student in his or her native language; document informal assessment data Invalid Findings: Follow up with Native Language Evaluation (see below)
Follow Up Native/ Heritage Language Evaluation	Based on English assessment results, administer native language assessment in all low areas of cognitive processing **and** academic areas (below a Standard Score of 85)	According to assessment results from English administration, follow up with administering assessments in Spanish in cognitive processing areas where performance was below a Standard Score of 85 to determine performance isn't due to English acquisition bias.	No Follow Up Necessary in Native/Heritage Language as long as some level of native language assessment was engaged in and documented such as the language dominance assessment	Using an interpreter assess low areas of cognitive performance (below a Standard Score of 85) from English assessment in standardized way (Note the use of interpreter during administration in the assessment report and indicate that the results may not be valid)
Reporting Full Scale	Use caution in reporting full	Do not report full scale IQ	Use caution in reporting full	Do not report full scale IQ

Intelligence Quotient	scale IQ		scale IQ	
Analyze Cognitive and Academic Data	Determine if student demonstrates a normative PSW in both Native Language and English (for an English learner a normative weakness is most likely below a SS of 79)	Determine if student demonstrates a normative PSW in English or Spanish or both	Determine if student demonstrates a normative PSW in English	Determine if student demonstrates a normative PSW in English or Native Language or both
SLD?	Determine if student presents with a Specific Learning Disability **regardless** of language (Note: use caution when interpreting the academic scores of English learners, regardless of language dominance. ELs will usually have lower scores than English only students. For example, an English learner would most likely not be manifesting a moderate to severe SLD unless their scores were below or far below a SS of 79)	Determine if student presents with a Specific Learning Disability (Note: use caution when interpreting the academic scores of English learners, regardless of language dominance. ELs will usually have lower scores than English only students. For example, an English learner would most likely not be manifesting a moderate to severe SLD unless their scores were below or far below a SS of 79)	Determine if student presents with a Specific Learning Disability (Note: use caution when interpreting the academic scores of English learners, regardless of language dominance. ELs will usually have lower scores than English only students. For example, an English learner would most likely not be manifesting a moderate to severe SLD unless their scores were below or far below a SS of 79)	Determine if student presents with a Specific Learning Disability (Note: use caution when interpreting the academic scores of English learners, regardless of language dominance. ELs will usually have lower scores than English only students. For example, an English learner would most likely not be manifesting a moderate to severe SLD unless their scores were below or far below a SS of 79)

C-LIM Valid Results: The student's non-native English proficiency may impact their test scores. To ensure accurate estimates of their abilities, their test scores were analyzed using the Culture-Language Interpretive Matrix (C-LIM). Results show that performance did not align with expectations for others with similar backgrounds, except for language proficiency which was evaluated through comparison to other English learners using the C-LIM. Therefore, the scores can

be considered fair estimates of the student's abilities, except for language proficiency.

C-LIM Invalid Results: The student's non-native English proficiency may impact their test scores. To ensure the scores accurately reflect their abilities, their test scores were analyzed using the Culture-Language Interpretive Matrix (C-LIM). Results show that the scores are consistent with others from similar backgrounds, but cannot be considered fair estimates of the student's abilities. However, when compared to average individuals without disabilities from research studies, the student's performance appears to be average or possibly higher, suggesting no learning disability. Difficulties in the classroom are likely due to the normal process of acquiring a second language and acculturative knowledge. Because of these findings, additional assessments were conducted with a bilingual assessor/using an interpreter in areas where the student showed below expected performance considering their linguistic and cultural background.

Legal References:
Section 1412(a)(6)(B) of Title 20 of the United State Code
1414(b)(3)(A)(ii) of Title 20 of United States Code
EC 56320(a) & 56001 (b)(j)
CCR Title 5: 3023

Other References / Brain Scan Research
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Materials provided by **Stanford University Medical Center**. Original written by Michelle Brandt. *Note: Content may be edited for style and length.*

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Dyslexia/ Reading Disabilities Remediation Research

https://www.readingrockets.org/article/dyslexia-and-brain-what-does-current-research-tell-us

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Vaughtn, S., Denton, C. A, Fletcher, J. M. . (2010). **Why intensive interventions are necessary for students with severe reading difficulties.** *Psychol Sch*. 2010 May; 47(5): 432–444.doi: 10.1002/pits.20481

Shaywitz ,S. E., Morris R., Shaywitz, B.A. The education of dyslexic children from childhood to young adulthood. Annu Rev Psychol. 2008;59:451-75. doi:

10.1146/annurev.psych.59.103006.093633. PMID: 18154503.

English Learner Pre-Referral Checklist

Directions: It is highly recommended that the school site multi-disciplinary team responsible for making assessment referrals to special education complete this checklist to help determine if the referral of an Multi-Lingual English Learner (EL) student is appropriate.

1) ❒Yes ❒No Has the student received core curriculum instruction that is appropriate for EL students (check all that apply)?

❒ Designated ELD services have been delivered with fidelity at least (recommended 30 minutes daily)

❒ Integrated ELD has been consistently provided in classroom over time

❒ Best practice, evidence-based strategies has been utilized (list below)

❒ Evidence there is use of SDAIE strategies or *universal design for learning* (UDL)

❒ The CA State adopted ELD standards integrated with the CORE Content standards has been implemented over time.

❒ Other (explain below)

Describe ELD strategies and services delivered below:

2) ❒Yes ❒No Has the student received evidence-based intensive intervention in academic areas of difficulty:

❒ Use of appropriate materials and strategies designed for English Learners

❒Implemented with fidelity over time (recommended minimum of 80 -110 hours in a given school year), and

❒ Student demonstrated little or no progress compared to "**like peers**" (defined as multi-lingual English learners with similar cultural background and education experiences in native language and English) as evidenced by data tracking (attach data tracking records)

Describe intervention services below:

3) ❒Yes ❒No Does the team have data regarding the rate of learning and types of learning difficulties manifested mirror those of other students with a *specific learning disability* versus being primarily due to a language difference?

Describe:

4) ❒Yes ❒No Has the team consulted with the parent regarding learning patterns and language used in the home and community?

5) ❒ Yes ❒ No The error patterns seen in the native language (L1) are similar to the patterns seen in English (L2) in oral language (expressive or receptive or both), and in reading, if the student has literacy in their native language. If no, are the error patterns seen in English typical of second language learners versus a learning disability?
Describe:

6) ❒Yes ❒No Are the learning difficulties and/or language acquisition patterns manifested over time similar in different settings and in different contexts (home, school, and community)?
Describe:

7) ❒ Yes ❒ No Competing hypothesis have been ruled out - extrinsic factors have been considered (physical, personal, cultural, learning environment).

References:

Shaywitz SE, Morris R, Shaywitz BA. The education of dyslexic children from childhood to young adulthood. Annu Rev Psychol. 2008;59:451-75. doi: 10.1146/annurev.psych.59.103006.093633. PMID: 18154503

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Educating English Learners with Disabilities available at
https://www.cde.ca.gov/sp/se/ac/documents/ab2785guide.pdf

Evaluation and Consideration of Exclusionary Factors for *Specific Learning Disability (SLD)* Identification

An evaluation of specific learning disability (SLD) requires an evaluation and consideration of special actors, other than a disorder in one or more basic psychological processes that may be the primary cause of a student's academic skill weaknesses and learning difficulties. These factors include (but are not limited to), vision/ hearing[1], or motor disabilities, intellectual disability (ID), social/emotional or psychological disturbance, environmental or economic disadvantage, cultural and linguistic factors (e.g., limited English proficiency), insufficient instruction or opportunity to learn and physical/health factors. These factors may be evaluated via behavior rating scales, parent and teacher interviews, classroom observations, attendance records, social and developmental history, family history, vision/hearing exams[1], medical records, prior evaluations, and interviews with current or past counselors, psychiatrists, and paraprofessionals who have worked with the student. Noteworthy is the fact that students with (and without) SLD often have one or more factors (listed below) that ***contribute*** to academic and learning difficulties. However, the practitioner must rule out any of these factors as being the ***primary*** reason for a student's academic and learning difficulties to maintain SLD as a viable classification/diagnosis.

Vision (Check All that Apply):

<table>
<tr><td>Yes</td><td>No</td><td>Vision test recent (within 1 year)</td><td>Yes</td><td>No</td><td>Vision test recent (within 1 year)</td></tr>
<tr><td>Yes</td><td>No</td><td>Passed</td><td></td><td></td><td>Diagnosed visual disorder/disturbance; if yes, specify below</td></tr>
<tr><td>Yes</td><td>No</td><td>Failed</td><td colspan="3" rowspan="2">Vision difficulties suspected or observed (e.g., difficulty with far or near point copying, misaligned numbers in written math work, squinting or rubbing eyes during visual tasks such as reading, computers)</td></tr>
<tr><td>Yes</td><td>No</td><td>Wears Glasses</td></tr>
<tr><td colspan="6">Comments:</td></tr>
</table>

Hearing (Check All that Apply):

<table>
<tr><td>Yes</td><td>No</td><td>Hearing test recent (within 1 year)</td><td>Yes</td><td>No</td><td>Hearing test outdated (> 1 year)</td></tr>
<tr><td>Yes</td><td>No</td><td>Passed</td><td></td><td></td><td>History of auditory disorder/disturbance , if yes specify below</td></tr>
<tr><td>Yes</td><td>No</td><td>Failed</td><td colspan="3" rowspan="2">Hearing difficulties suggested in the referral (e. g. frequent requests for information, misarticulated words, attempts to self- accommodate by moving closer to sound source, obvious attempts to speech read)</td></tr>
<tr><td>Yes</td><td>No</td><td>Uses Hearing Aids</td></tr>
</table>

Comments:

Motor Functioning (Check All that Apply):

Yes	No	Fine motor delay / difficulty	Yes	No	History of motor disorder
Yes	No	Gross Motor Delay/Difficulty	If yes, explain:		
Yes	No	Improper pencil grip; if so, specify below	Diagnosed motor disorder; if so , specify below		
Yes	No	Assistive devices/aids used (e.g., weighted pens, pencil grip, slant board, etc.)	Yes	No	Motor difficulties suggested in the referral (e. g., illegible writing; issues with letter or number formation, size, spacing; difficulty with fine motor tasks such as using scissors, folding paper)
Comments:					

Cognitive and Adaptive Functioning (Check All that Apply):

Yes	No	Significantly "subaverage intellectual functioning" (e.g., IQ score of 75 or below)						
Yes	No	Pervasive cognitive deficits (e.g., weaknesses or deficits in many cognitive areas, including *Gf* ***and*** *Gc*)						
Yes	No	Deficits in adaptive functioning (e.g., social, communication, self-care)						
Yes	No	Motor Skill	Yes	No	Communication	Yes	No	Socialization
		Behavior/Emotional Skills			Daily Living Skills			Other
Comments:								

Social-Emotional/Psychological Factors (Check All that Apply):

Yes	No	Diagnosed psychological disorder; if yes, Specify: Date(s) of Diagnosis:
Yes	No	Family history significant for psychological difficulties; if yes, specify:
Yes	No	Disorder presently treated - specify treatment modality (e.g., counseling, medication): Reported difficulties with social/emotional; functioning (e.g., social phobia, anxiety,

		depression) Social-Emotional/Psychological issues suspected or suggested by referral; if yes, specify:
Yes	No	Home-School Adjustment Difficulties
Yes	No	Lack of Motivation/Effort: Does student attempt classroom assignments/hw? Is group performance consistent with student?
Yes	No	Emotional Stress (Has academic performance fallen dramatically within 6-12 mos? Any new situations within student's family that would contribute to a drop in academic performance?); if yes, specify:
Yes	No	Autism Spectrum Disorder
Yes	No	Presently Takes Medication(s); if yes, specify (type, dosage, frequency, duration):
Yes	No	Prior Medication Use; if yes, specify: (type, dosage, frequency, duration):
Yes	No	Hospitalization for psychological difficulties; if yes, Specify dates:
Yes	No	Deficits in social, emotional, or behavioral [SEB] functioning (e.g., as assessed by standardized rating scales)
Significant scores from SEB measures:		
Comments:		

Environmental/Economic Factors (Check All that Apply):

Yes	No	Limited access to educational materials in the home	Yes	No	History of educational neglect
Yes	No	Caregivers unable to provide instructional support			Frequent transitions (e.g., shared custody)
		Economic considerations precluded treatment of identified issues (e.g., filling a prescription, replacing broken glasses, tutoring)			Environmental space issues (e.g., no space for studying)
		Temporary Crisis Situation	If yes, specify:		
Comments:					

Cultural/Linguistic Factors (Check All that Apply)[3]:

Yes	No	Limited Number of Years in the U.S.; If yes, Specify:	Yes	No	Language(s) Other than English Spoken in Home; If yes, specify:
Yes	No	Is there a History of Early or Developmental Problems in the Primary Language (L1)	Yes	No	Lack of or Limited instruction in the Primary Language; If yes, specify:
Yes	No	Current Primary Language Proficiency: Date: Score (s):	Yes	No	Current English Language Proficiency: Date: Score (s):
Yes	No	Acculturative Knowledge Development: ____High ____Moderate ____ Low	Yes	No	Parental Educational and Socio-Economic Level: ____High ____Moderate ____ Low
Comments:					

Physical/Health Factors (Check All that Apply):

Yes	No	Limited access to healthcare	Yes	No	Minimal documentation of health history/status
Yes	No	Chronic health condition.; If yes, specify:	Yes	No	Hospitalization; If yes, dates:
Yes	No	Migraines	Yes	No	Repeated visits to the school nurse
Yes	No	Medical Treatments; If yes, specify:	Yes	No	Repeated visits to a physician ; If yes, specify
Yes	No	Medication; If yes, (type, dosage, frequency, duration):			
Comments:					

Instructional Factors (Check All that Apply):

Yes	No	Interrupted schooling (e.g., mid-year school move); If yes, specify reasons:	Yes	No	New teacher (past 6 months): If yes, specify detail:
Yes	No	Retained or advanced a grade(s); if yes, indicated grade and reason:	Yes	No	Accelerated curriculum (e.g., AP classes): If yes, describe:
Yes	No	Nontraditional curriculum (e.g., homeschooled, private school, etc.); If yes, describe:	Yes	No	Excessive # Absences; If yes, indicate how many per most recent school year and prior two years:
Comments:					

Determination of Primary and Contributory Causes of Academic Weaknesses and Learning Difficulties (Check One):

❒ Based on the available data, it is reasonable to conclude that one or more factors is ***primarily*** responsible for the student's academic difficulties.

❒ Based on the available data, it is reasonable to conclude that one or more factors ***contributes*** to the student's observed learning difficulties.

❒ ***No*** factors listed here appear to be the primary cause of the student's academic weaknesses and learning difficulties

_____ _____Name

of Assessor Date

Footnotes:

[1]For vision and hearing disorders, it is important to understand the nature of the disorder, its expected impact on achievement, and the time of diagnosis. It is also important to understand what was happening instructionally at the time the disorder was suspected and/or diagnosed. With regard to hearing, even mild loss can impact initial receptive and expressive skills as well as academic skill acquisition. When loss is suspected, the practitioner should consult professional literature to further understand the potential impact of a documented hearing issue (see American Speech-Language-Hearing Association guidelines www.asha.org).

With regard to vision, refractive error (i.e., hyperopia and anisometropia), accommodative and vergence dysfunctions, and eye movement disorders are associated with learning difficulties whereas others vision problems are not (e.g., constant strabismus and amblyopia). As such, when a vision disorder is documented or suspected, the practitioner should consult professional literature to further understand the impact of the visual disorder (e.g., see American Optometric Association www.aoa.org).

[2]When there is a history of hearing difficulties and a learning disability diagnosis is being considered, hearing testing should be recent (i.e., conducted within the past 6 months).

[3]When evaluating the impact of language and cultural factors on a student's functioning, the practitioner should consider whether and to what extent other individuals with similar linguistic and cultural backgrounds as the referred student are progressing and responding to instruction in the present curriculum (e.g., if an LEP student is not demonstrating academic progress or is not performing as expected on a class- or district-wide assessment when compared to his/her peers who possess a similar level of English proficiency and acculturative knowledge, it is unlikely that cultural and linguistic differences are the sole or primary factors for the referred student's low performance). In addition, it is important to note that as the number of cultural and linguistic differences in a student's background increase, the greater the likelihood that poor academic performance is attributable primarily to such differences rather than a disability.

End Note: All 50 US states specify eight exclusionary criteria. Namely, learning difficulties cannot be primarily attributed to, (1) visual impairment; (2) hearing impairment; (3) motor impairment; (4) intellectual disability; (5) emotional disturbance; (6) environmental disadvantage; (7) economic disadvantage; and (8) cultural difference. Noteworthy is the fact that certain states have adopted additional exclusionary criteria including *autism*, (CA, MI, VT, and WI), *emotional stress* (LA and VT), *home or school adjustment difficulties* (LA and VT), *lack of motivation* (LA and TN), and *temporary crisis situation* (LA, TN, and VT). The present authors have integrated these additional criteria under "social-emotional/psychological factors" and "environmental/economic factors" and have added two additional categories, namely, "instructional factors" and "physical/health factors" to this form.

Adapted By Jarice Butterfield, Ph. D. from form developed by Jennifer T. Mascolo and Dawn P. Flanagan. This form may be copied and disseminated.