Strictly Confidential

Psychological & Educational
Consultancy Services

Suite 9 / 336 Churchill Avenue SUBIACO WA 6008
PO Box 502 SUBIACO WA 6904
(08) 9388 8044
www.registeredpsychologist.com.au

PECS' Example SLD Report

John Smith

This report was prepared for the purpose of the client's clinical and/or educational management.

The report is not intended for, and is unsuitable for, use in legal proceedings.

The information contained in this report is sensitive and confidential and must be treated accordingly.

The results should only be interpreted by an appropriately trained professional.

CONTENTS

BIOGRAPHICAL DETAILS

Name:	John Smith
Date of Birth:	20/01/2013
Gender:	Male
Age:	9 years
Grade:	4

REFERRAL INFORMATION

John was referred to Psychological and Educational Consultancy Services (PECS) by his parent(s) for a *Comprehensive Psychological and Educational Assessment* to investigate the possible presence of a Specific Learning Disorder (SLD).

Additional screening for disorders commonly associated with SLD (e.g., anxiety, depression) was also conducted to assist with any possible comorbidity and/or differential diagnosis implications that may be present.

INFORMED CONSENT AND ASSENT

John's parent(s) were informed of the reason for the assessment, the assessment components, and that the results would be used to compile a report which would be provided to them and the referrer (if applicable).

John's parent(s) indicated that they understood all that was conveyed to them and signed a Consent Form acknowledging that they consented to the administration of the assessment; and for the report to be generated and disseminated accordingly.

Immediately prior to the testing, John provided verbal assent indicating his agreement to participate in the assessment.

RELEVANT BACKGROUND INFORMATION

1. Pregnancy, Birth, and Development:

John's mother did not experience any significant illnesses during her pregnancy. No concerns in relation to maternal consumption of alcohol and/or substances during pregnancy were reported. John was born with no apparent complications and did not require assistance with breathing nor time in the neonatal intensive care unit. John reached most the major developmental milestones (e.g., crawling, walking, toileting) within the expected age ranges, except for speaking which was reached after the expected age range.

2. Speech and Language:

John's parents reported that John's speech was delayed for which he received six sessions of speech therapy.

3. Handedness and Coordination:

John is solely right-handed/right-footed. John's parents are of the opinion that he does not have any fine or gross motor movement problems, nor is hypermobility is present.

4. Sight and Hearing:

John requires the assistance of glasses/contact lenses. Normal auditory acuity was reported, however, the most recent testing was more than 3 years ago. John has previously been diagnosed with Glue Ear requiring grommets.

6. Sleep Quality:

John's parents reported that John has no difficulties falling asleep, staying asleep, or waking up in the morning.

6. Peer Relations:

John's parents report that John has no problems forming and maintaining good friendships.

7. Academic / Educational:

John has been having difficulty with reading, writing, and spelling since beginning his schooling. John received several hours of small group reading, writing, and spelling assistance each week in Years 2 and 3 and has had tutoring over all of Year 3. The tutoring was ceased three months ago to "give him a break".

John's teacher reported that John's main difficulty is with reading, however, he also finds writing and spelling difficult. John's teacher also reported that John's inability to read fluently and understand what he is reading is impacting his performance in all academic areas.

8. Behaviour:

John's parents reported that John continues to have issues with attention, concentration, impulsivity, and hyperactivity despite being medicated for Attention-Deficit/Hyperactivity Disorder (ADHD).

John's teacher reported that John struggles to complete activities, has difficulty remaining seated, and is often distracting his peers.

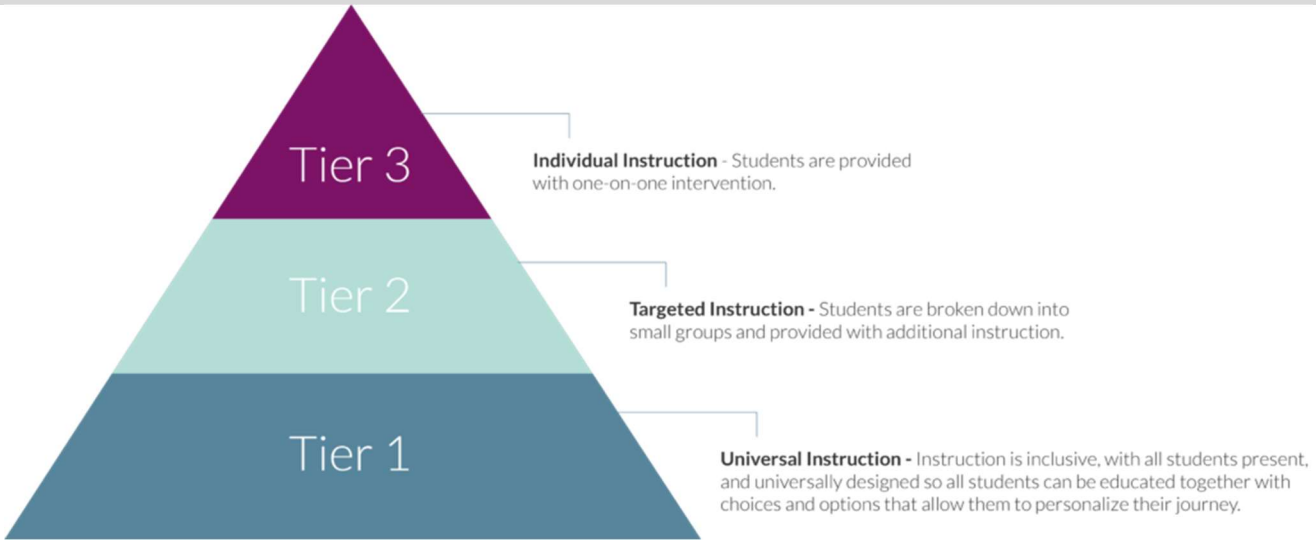
9. Health/Mental Health/Medical/Medication:

John's parents reported that John has no major medical conditions. John has previously been diagnosed with ADHD and is currently prescribed Vyvanse. There are no concerns over anxiety or depression, nor in relation to John self-harming. John is not currently receiving counselling.

10. Family History of Mental Health Conditions:

There is a family history of Dyslexia, Specific Learning Disorders (SLD), and ADHD. John's father reported that he is an "undiagnosed Dyslexic for sure!".

PAST EDUCATIONAL INTERVENTION



As per the DSM-5 Diagnostic Criteria (p. 66), a formal diagnosis of a Specific Learning Disorder (SLD) can only be given if the "*difficulties learning and using academic skills*" have persisted for at least 6 months, "*despite the provision of interventions that target those difficulties*:"

The DSM-5 states (p. 68) *In children and adolescents, persistence is defined as restricted progress in learning (i.e., no evidence that the individual is catching up with classmates) for at least 6 months despite the provision of extra help at home or school."*

With regards to the level of intervention required to satisfy the DSM-5 intervention requirement, given the DSM-5 is a hybrid approach incorporating elements of both the Low Achievement model and Response to Intervention (RTI) model, it is generally considered that it must be Tier 2 or higher.

Tier 2 intervention involves Targeted Assessments, Targeted Instruction, and Small-Group Intervention. Tier 3 intervention involves Intensive, Individualised remediation that is usually provided by a specialist tutor/remediator in a one-on-one environment outside of the classroom. When using the RTI model by itself to diagnose a SLD, a 6 or greater month history of Tier 3 intervention is generally accepted as the requirement.

PAST INTERVENTION:

Reading Intervention:

Reported by Parent:

- 45 minutes per week of small group work with an Education Assistant during Year 2 and Year 3
- 1 hour per week of private tutoring during the whole of Year 3

Writing Intervention:

Reported by Parent:

- 30 minutes per week of small group work with an Education Assistant during Year 2 and Year 3
- 1 hour per week of private tutoring during the whole of Year 3

Spelling Intervention:

Reported by Parent:

- 30 minutes per week of small group work with an Education Assistant during Year 2 and Year 3
- 1 hour per week of private tutoring during the whole of Year 3

Mathematics Intervention:

Reported by Parent:

- Nil

PAST INTERVENTION SUMMARY:

Six or more months of Tier 2 or higher intervention has been implemented for the following areas: **Reading, Writing,** and **Spelling**.

GLOBAL SCREENING ASSESSMENT

Global Screening Test Administered:

	Date of Administration
**child* & *adolescent psychprofiler* (CAPP; Langsford, Houghton, & Douglas, 2014)	10/02/2022

CAPP Outline:

The CAPP is a reliable and valid 126 item instrument that utilises three separate screening forms; the Self-Report Form (SRF), Parent-report Form (PRF), and Teacher-report Form (TRF) for the simultaneous screening of 14 of the most prevalent disorders in children and adolescents.

The CAPP has been continually developed over the past 20 years, including validation against large mainstream and clinical samples, as well against other well-known instruments (e.g., Beck, Conners, etc).

The CAPP comprises screening criteria that mirror the symptom count and diagnostic criteria of the *Diagnostic and Statistical Manual of Mental Disorders–Fifth Edition* (DSM-5: American Psychiatric Association: APA, 2013). For example, a positive screen for Attention-Deficit/Hyperactivity Disorder: Predominantly Inattentive Presentation indicates that the symptom count was 6 or more of the 9 DSM-5 Inattentive items for a child 16 years of age and under.

For more information about the PsychProfiler, please see www.psychprofiler.com

CAPP Results:

John's parents reported positive screens for the following disorders:

- Attention-Deficit/Hyperactivity Disorder: Combined Presentation
- Speech Sound Disorder
- Specific Learning Disorder – with Impairment in Reading
- Specific Learning Disorder – with Impairment in Written Expression

John's teacher reported positive screens for the following disorders:

- Attention-Deficit/Hyperactivity Disorder: Predominantly Hyperactive/Impulsive Presentation
- Speech Sound Disorder
- Oppositional Defiant Disorder
- Specific Learning Disorder – with Impairment in Reading
- Specific Learning Disorder – with Impairment in Written Expression

Please note that any indication of a positive screen on the CAPP does not constitute a formal diagnosis.

A positive screen merely indicates that the individual has met sufficient criteria for a disorder to warrant further investigation by an appropriate professional.

The full list of 14 disorders screened for is available at www.psychprofiler.com

COGNITIVE BATTERY ASSESSMENT

Cognitive Test Administered:

	Date of Administration
Wechsler Intelligence Scale for Children-Fifth Edition (iPad version, WISC-V, 2016)	21/02/2022

WISC-V Overview:

The Wechsler Intelligence Scale for Children- Fifth Edition (WISC-V) is an individually administered, comprehensive clinical instrument for assessing the cognitive ability of children between the ages of 6 years through to 16 years 11 months.

The WISC-V has Australian norms and Australian language adaptation and takes approximately 60 minutes for the core subtests.

The WISC-V provides primary index scores that represent intellectual functioning in specified cognitive areas (i.e., Verbal Comprehension Index, Visual Spatial Index, Fluid Reasoning Index, Working Memory Index, and Processing Speed Index), a composite score that represents general intellectual ability (i.e., Full-Scale IQ), ancillary index scores that represent the cognitive abilities in different groupings based on clinical needs (e.g., Nonverbal Index, General Ability Index) and complementary index scores that measure additional cognitive abilities related to academic achievement and learning-related issues and disorders (e.g., Naming Speed Index). Please see the Appendix for Index and Subtest descriptions.

WISC-V Examiner's Details:

TEST ADMINISTRATOR:	Dr Shane Langsford
QUALIFICATIONS:	Bachelor of Psychology (1994, UWA) Bachelor of Education with First Class Honours (1996, UWA) Doctor of Philosophy in Educational Psychology (1999, UWA)
REGISTRATION:	AHPRA/PBA Fully Registered Psychologist (PSY0001578191)

WISC-V Test Behaviour:

Speech sound difficulties were observed during the testing (e.g., difficulties successfully producing the 'th' sound)

John had a tendency to fidget with objects proximal to him.

John had difficulty staying seated.

WISC-V Test Results:

Age at Testing: 9 years 0 months

Table 1: WISC-V Index Scores

WISC-V Indexes	Composite Score	Percentile Rank	95% Confidence Interval	Qualitative Description
PRIMARY INDEXES				
Verbal Comprehension Index (VCI)	107	68	102-112	Average
Visual Spatial Index (VSI)	114	82	105-121	High Average
Fluid Reasoning Index (FRI)	118	88	110-124	High Average
Working Memory Index (WMI)	107	68	100-113	Average
Processing Speed Index (PSI)	103	58	93-112	Average
Full Scale Intelligence Quotient (FSIQ)	108	70	101-113	Average
ANCILLARY INDEXES				
Auditory Working Memory Index (AWMI)	106	66	99-112	Average
Nonverbal Index (NVI)	113	81	107-118	High Average
General Ability Index (GAI)	**114**	**82**	**105-121**	**High Average**
Cognitive Proficiency Index (CPI)	106	66	98-113	Average

Index scores have a mean Composite Score of 100 (50th percentile) and a standard deviation of 15.
Percentile Rank refers to John's standing among 100 individuals of a similar age.
Therefore, a Percentile Rank of 50 indicates that John performed exactly at the average level for his age.
If there is a one standard deviation or more difference between any of the Index Composite Scores, often an Index rather than the FSIQ (e.g., GAI, FRI, etc) is deemed to provide a better estimate of the individual's true underlying natural cognitive ability.
Composite Scores are intentionally removed from parent copies of the report as per APS policy

Below is a set of characteristic difficulties relevant to lower ability in each Index. These are generic difficulties and are not provided as an illustration of John's individual difficulties.

Verbal Comprehension weaknesses can cause difficulty learning in the classroom and performing to ability in exams by:

- Trouble understanding verbal directions and/or instructions. This will be more so with complex language, or when multiple steps are included in an instruction.
- Increased difficulty completing exams that require a large written output (i.e., essays, long answer questions).
- Being seen as 'poor listeners'. These individuals can appear to be easily distracted and inattentive at times, especially when faced with high verbal task demands.
- Difficulty with 'word based Mathematics problems' –generally these individuals will have adequate Mathematics abilities, but the individual will find it difficult to demonstrate this when the Mathematics questions are buried in text.
- Not allowing them to 'show' what they know in ways that are heavily language based. Being stronger in Mathematics, Science, etc is common.
- Learning from teaching delivered in a normal instructional manner. These individuals learn more effectively via learning from charts, visual materials, diagrams, videos, or hands-on demonstrations.
- Difficulty in terms of reading comprehension – they may need to re-read a given text in order to fully understand the meaning.
- Difficulty in understanding abstract concepts, particularly when asked to perform tasks that rely heavily on verbal abstract reasoning.
- Difficulty in understanding social conventions (i.e., what should you do if you find a wallet in a store).

Working Memory weaknesses can cause difficulty learning in the classroom and performing to ability in exams by:

- Difficulty absorbing teacher's instructions, particularly if they contain more than one step
- Wide ranging difficulties in both Mathematics and reading, both of which are activities that place high demand on working memory ability.
- May show overall lower achievement across classroom activities, due to the impact of working memory weaknesses on efficiency in terms of learning new information. These individuals appear to be slower than peers in terms of learning new skills.
- Difficulty performing mental Mathematics calculations
- Struggling to copy information from the board, both accurately and quickly
- Frequent errors across tasks that involve the individual to recall small amounts of information, while at the same time performing another task.
- Difficulty performing tasks with a number of steps, they may miss out steps or make mistakes in terms of not carefully paying attention to the details.
- Appearing to have a relatively short attention span, they may appear inattentive or distractible.

Processing Speed weaknesses can cause difficulty learning in the classroom and performing to ability in exams by:

- Difficulty processing large amounts of information, or being able to understand long, complex instructions.
- Poorer performance across timed tasks/exams relative to peers. These individuals need more time to be able to show what they do know.
- Being overall slower to complete tasks in class or for homework
- Being slower at copying information down from the board or writing down what the teacher is saying.
- Written work is very time consuming, it takes these individuals a long time to write down what they know.
- Easy to fatigue; these individuals need to use more cognitive resources to complete the same amount of work as their peers.
- Difficulty following conversations, or keeping track of the plot in books/movies

Table 2: WISC-V Subtest Scaled Scores

Subtests	Scaled Score	Percentile Rank	Age Equivalent
Verbal Comprehension Index			
Similarities	12	75	9:10
Vocabulary	10	50	8:2
Visual Spatial Index			
Block Design	12	75	10:2
Visual Puzzles	13	84	10:2
Fluid Reasoning Index			
Matrix Reasoning	12	75	10:6
Figure Weights	14	91	12:10
Working Memory Index			
Digit Span	12	75	9:10
Picture Span	10	50	8:2
*Letter-Number Sequencing	10	50	7:6
Processing Speed Index			
Coding	9	37	<8:2
Symbol Search	12	75	9:2
*Cancellation	5	5	<6:2

*See Appendix 1 for complete subtest descriptions. * Supplementary Subtest*

Table 3: WISC-V Core Subtest Discrepancies From 10 Primary Subtest Mean Score

Subtest	Scaled Score	Mean Scaled Score	Difference From Mean	Critical Cutoff Value	.05 Strength or Weakness	Base Rate@
Verbal Comprehension						
Similarities	12	12.0	0.0	2.44		
Vocabulary	10	12.0	-2.0	2.05	Low	<=25%
Visual Spatial						
Block Design	12	12.0	0.0	3.05		
Visual Puzzles	13	12.0	1.0	1.92		>25%
Fluid Reasoning						
Matrix Reasoning	12	12.0	0.0	3.56		
Figure Weights	14	12.0	2.0	1.92	Strength	<=15%
Working Memory						
Digit Span	12	12.0	0.0	2.44		
Picture Span	10	12.0	-2.0	2.05	Low	<=25%
*Letter-Number Sequencing	10	12.0	-2.0	2.50	Low	
Processing Speed						
Coding #	9	12.0	-3.0	3.24	Low	<=15%
Symbol Search #	12	12.0	0.0	3.94		
*Cancellation	5	12.0	-7.0	2.50	Weakness	

Comparison score mean derived from the ten primary subtest scores (MSS-P).
@ Base rate refers to the clinical significance (vs Ability Sample) - <15% = clinically significant.
Scores referred to as 'High' or 'Low' fall close to the critical value for statistical significance
**Supplementary Subtest #Paper administration of the Coding and Symbol Search subtests were utilised.*

Table 4: WISC-V WMI and PSI Subtest Discrepancies From GAI Index Subtest Mean

Please note, the statistics provided in this table are not standard WISC-V analyses and are provided as a guide only

Subtest	Subtest Scaled Score	GAI Mean Score	Difference From GAI Mean	Nominal Critical Cutoff	.05 Strength or Weakness
Working Memory					
Digit Span	12	12.8	-0.8	2.50	
Picture Span	10	12.8	-2.8	2.50	Weakness
* Letter-Number Sequencing	10	12.8	-2.8	2.50	Weakness
Processing Speed					
Coding	9	12.8	-3.8	2.50	Weakness
Symbol Search	12	12.8	-0.8	2.50	
*Cancellation	5	12.8	-7.8	2.50	Weakness

Scores referred to as 'High' or 'Low' fall close to the critical value for statistical significance **Non-core subtest.*

EDUCATIONAL BATTERY ASSESSMENT

Educational Achievement Tests Administered:

	Date of Administration
(1) Wechsler Individual Achievement Test-Third Edition-Australian (WIAT-III-Aust)	21/02/2022

WIAT-III Overview:

The WIAT-III$^{A\&NZ}$ is an individually administered clinical instrument designed to measure the achievement of students who are in Preschool through to the final year of Secondary School (i.e. Year 12), or ages 4 years 0 months to 50 years 11 months.

The WIAT-III$^{A\&NZ}$ was standardised on a sample of 1360 Australian and New Zealand students and features comprehensive normative information.

The WIAT-III$^{A\&NZ}$ consists of a total of 16 subtests used to evaluate listening, speaking, reading, writing, spelling, and mathematics skills. Please see the Appendix for full subtest descriptions.

WIAT-III Examiner's Details:

TEST ADMINISTRATOR:	Dr Shane Langsford
QUALIFICATIONS:	Bachelor of Psychology (1994, UWA) Bachelor of Education with First Class Honours (1996, UWA) Doctor of Philosophy in Educational Psychology (1999, UWA)
REGISTRATION:	AHPRA/PBA Fully Registered Psychologist (PSY0001578191)

WIAT-III Observations and Error Pattern Analysis:

John needed to laboriously 'sound out' words that are considered 'somewhat easy' for his age cohort.

John often spells phonetically.

John was observed to reverse letters when writing.

John often used capital letters in the middle of words when writing.

WIAT-III Results:

Age Level at Testing: 9 years 0 months *Grade Level at Testing: 4*

Table 1: WIAT-III Summary Statistics

WIAT-III Subtest	Standard Score	95% Confidence Interval	Percentile	Year / Grade Equivalent	Age Equivalent	Qualitative Description	≤ 78
READING							
Word Reading	75	71-79	5	<1.1	<6:0	Very Low	Yes
- Word Reading Speed*			1			-	
Pseudoword Decoding	87	82-92	19	1.1	6:4	Low Average	
- Pseudoword Dec. Speed*			10			-	
Oral Reading Fluency	58	50-66	0.3	<1.1	<6:0	Extremely Low	Yes
- Oral Reading Accuracy	66	54-78	1	<1.1	<6:0	Extremely Low	Yes
- Oral Reading Rate	56	46-66	0.2	<1.1	<6:0	Extremely Low	Yes
Basic Reading Composite	**81**	**78-84**	**10**			**Low Average**	
MATHEMATICS							
Maths Problem Solving	98	89-107	45	2.4	7:9	Average	
Numerical Operations	101	91-111	53	3.1	8:0	Average	
Maths Fluency	101	91-111	53			Average	
- Addition	96	83-109	39	2.3	7:8	Average	
- Subtraction	101	91-111	53	3.1	8:0	Average	
- Multiplication	98	89-107	45	2.4	8:0	Average	
Mathematics Composite	**99**	**86-105**	**47**			**Average**	
WRITTEN LANGUAGE							
Sentence Composition	85	80-90	16	2.3	7:4	Low Average	
- Sentence Combining	90		25			Average	
- Sentence Building	77		6			Very Low	Yes
Essay Composition	85	80-90	16	2.2	7:4	Low Average	
- Word Count	87		19			Low Average	
- Theme Dev and Text Org	87		19			Low Average	
- Grammar and Mechanics	45	32-58	<0.1	<3.1	<8:0	Extremely Low	Yes
Spelling	75	71-79	5	<1.1	<6:0	Very Low	Yes
Written Language Comp.	**81**	**78-84**	**10**			**Low Average**	

Age Norms have been used in the above table
Subtest scores have a mean Standard Score of 100 (50th percentile) and a standard deviation of 15
A percentile Rank of 50 indicates that the individual performed exactly at the average level for his chronological age
A score of ≤ 78 equates to those that fall at least one and a half standard deviations below the mean

SUMMARY OF DSM-5 SPECIFIC LEARNING DISORDER CRITERIA

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

1. Inaccurate or slow and effortful word reading (e.g., reads single words aloud incorrectly or slowly and hesitantly, frequently guesses words, has difficulty sounding out words.
2. Difficulty understanding the meaning of what is read (e.g., may read text accurately but not understand the sequence, relationship, inferences, or deeper meanings of what is read).
3. Difficulties with spelling (e.g., may add, omit, or substitute vowels or consonants).
4. Difficulties with written expression (e.g., makes multiple grammatical or punctuation errors within sentences; employs poor paragraph organisation; written expression of ideas lacks clarity.)
5. Difficulties mastering number sense, number facts or calculation (e.g., has poor understanding of numbers, their magnitude, and relationships; counts on fingers to add single-digit numbers instead of recalling the math fact as peers do; gets lost in the midst of arithmetic computation and may switch procedures).
6. Difficulties with mathematical reasoning (e.g., has severe difficulty applying mathematical concepts, facts, or procedures to solve quantitative problems).

Six or more months of Tier 2 or higher intervention has been implemented for the following areas: **Reading, Writing** and **Spelling**.

This criterion is rated as having been Met.

B. The affected academic skills are substantially and quantifiably below those expected for the individual's chronological age, and cause significant interference with academic or occupational performance, or with activities of daily living, as confirmed by individually administered standardized achievement measures and comprehensive clinical assessments. For individuals aged 17 years and older, a documented history of impairing learning difficulties may be substituted for standardised assessments.**

**Please note, as per the DSM-5 (Specific Learning Disorders Diagnostic Features; p69), *"Low achievement scores on one or more standardised tests or subtests within an academic domain (i.e. at least 1.5 standard deviations [SD] below the population mean for age, which translates to a standard score of 78 or less, which is below the 7th percentile) are needed for the greatest diagnostic certainty".*

This criterion is rated as having been Met.

C. The learning difficulties begin during school-age years but may not become fully manifest until the demands for those affected academic skills exceed the individual's limited capacities (e.g., as in timed tests, reading or writing lengthy complex reports for a tight deadline, excessively heavy academic loads).

This criterion is rated as having been Met.

D. The learning difficulties are not better accounted for by intellectual disabilities, uncorrected visual or auditory acuity, other mental or neurological disorders, psychosocial adversity, lack of proficiency in the language or academic instruction, or inadequate educational instruction.

This criterion is rated as having been Met.

E. Severity Level (if applicable):

Severity	Qualitative Information
Mild	Some difficulties learning skills in one or two academic domains, but mild enough severity that the individual may be able to compensate or function well when provided with appropriate accommodations or support services, especially during the school years.
Moderate	Marked difficulties learning skills in one or more academic domains, so that the individual is unlikely to become proficient without some intervals of intensive specialized teaching during the school years. Some accommodations or supportive services at least part of the day at school, in the workplace, or at home may be needed to complete all activities efficiently
Severe	Severe difficulties learning skills, affecting several academic domains, so that the individual is unlikely to learn those skills without ongoing intensive individualized and specialized teaching for most of the school years. Even with an array of appropriate accommodations or services at home, at school, or in the workplace, the individual may not be able to complete all activities efficiently.

HANDWRITING SPEED TEST

Handwriting Speed Test Administered:

	Date of Administration
(1) The Handwriting Speed Test (Wallen, Bonney, & Lennox, 1996)	21/02/2022

HWST Overview:
The Handwriting Speed Test is a three-minute standardised assessment of a child's speed of handwriting.

HWST Categories:
The authors provide the following category cut-offs as a measure of handwriting speed ability.

Scaled Score	***Category***
17-19	Superior Handwriting Speed
14-16	Above Average Handwriting Speed
7-13	Average Handwriting Speed
4-6	Impaired Handwriting Speed
1-3	Significantly Impaired Handwriting Speed

HWST Results:

John was able to write 75 letters during the three-minute time period which equates to a speed of 25 letters per minute.

This result (Scaled Score = 5; 5th percentile) indicates John falls within the Impaired Handwriting Speed category.

PHONOLOGICAL PROCESSING ASSESSMENT

Test Administered:

	Date of Administration
Comprehensive Test of Phonological Processing (CTOPP)	21/02/2022

CTOPP-II Overview:

The CTOPP-II is an individually administered assessment battery that measures the aspects of phonological awareness, phonological memory, and rapid naming. A deficit in one or more of these kinds of phonological processing abilities is viewed as the most common cause of learning disabilities in general, and of reading disabilities in particular. The CTOPP-II can be used for individuals aged 5 years 0 months to 24 years 11 months.

CTOPP-II Subtests:

Elision (EL)	This 34-item subtest measures the extent to which an individual can say a word, then say what is left after dropping out designated sounds.
Blending Words (BW)	This 33-item subtest measures an individual's ability to combine sounds to form words.
Phoneme Isolation (PI)	This 32-item subtest measures the extent to which an individual can isolate different phonemes within individual words.
Memory for Digits (MD)	This 28-item subtest measures the extent to which an individual can repeat a series of numbers ranging in length from two to eight digits.
Nonword Repetition (NR)	This 30-item subtest measures an individual's ability to repeat nonwords that range in length from 3 to 15 seconds.
Rapid Digit Naming (RD)	This 36-item subtest measures the speed with which an individual can name the numbers on two pages.
Rapid Letter Naming (RL)	This 36-item subtest measures the speed with which an individual can name the letters on two pages.

The six subtests from the CTOPP-II are combined to form three Composites that provide information about the three key areas of phonological processing: Phonological Awareness, Phonological Memory and Rapid Naming.

CTOPP-II Composites:

Phonological Awareness (PACS)	Measures an individual's phonological awareness – awareness of and access to the phonological structure of oral language.
Phonological Memory (PMCS)	Measures the examinee's ability to code information phonologically for temporary storage in working memory or short-term memory.
Rapid Naming (RNCS)	Measures the examinee's efficient retrieval or phonological information from long-term or permanent memory, as well as the examinee's ability to execute a sequence of operations quickly and repeatedly.

CTOPP-II Results:

Grade Level at Testing: 4
Age Level at Testing: 9 years 0 months

Table 1: CTOPP-II Summary Statistics

CTOPP-II Subtest	Scaled Score	Percentile	Age Equivalent	Grade Equivalent
Elision	8	25	7:6	3:7
Blending Words	8	25	7:6	3:7
Phoneme Isolation	7	16	6:0	2:4
Memory for Digits	8	25	7:6	3:7
Nonword Repetition	8	25	7:6	2:4
Rapid Digit Naming	7	16	6:0	2:4
Rapid Letter Naming	5	5	5:2	1:7

Subtest scores have a mean Standard Score of 10 (50th percentile) and a standard deviation of 3
Percentile Rank refers to John's standing among 100 individuals of similar age. Therefore, a Percentile Rank of 50 indicates that John performed exactly at the average level for his chronological age.

Table 2: CTOPP-II Composite Results

Composite	Composite Score	Percentile Rank	Classification
Phonological Awareness	88	21	Below Average
Phonological Memory	88	21	Below Average
Rapid Naming	76	5	Poor

Composite scores have a mean Standard Score of 100 (50th percentile) and a standard deviation of 15
Percentile Rank refers to John's standing among 100 individuals of similar age. Therefore, a Percentile Rank of 50 indicates that John performed exactly at the average level for his chronological age.

Table 3: WISC-V vs CTOPP-II Comparative Results

Composite	Percentile Rank	Classification
WISC-V		
WISC-V GAI	82	High Average
CTOPP-II		
CTOPP-II Phonological Awareness	21	Below Average
CTOPP-II Phonological Memory	21	Below Average
CTOPP-II Rapid Naming	5	Poor

Composite scores have a mean Standard Score of 100 (50th percentile) and a standard deviation of 15
Percentile Rank refers to John's standing among 100 individuals of similar age. Therefore, a Percentile Rank of 50 indicates that John performed exactly at the average level for his chronological age.

Below is a set of characteristic difficulties relevant to lower ability in each Index. These are generic difficulties and are not provided as an illustration of John's individual difficulties.

Phonological Awareness weaknesses can cause difficulty learning in the classroom and performing to ability in exams by:

- Children who have difficulty with phonological awareness will often be unable to recognise or isolate the individual sounds in a word, recognise similarities between words (as in rhyming words), or be able to identify the number of sounds in a word. These deficits can affect all areas of language including reading, writing, and understanding of spoken language.
- If a child lacks phonemic awareness, they will have difficulty learning the relationship between letters and the sounds they represent in words, as well as applying those letter/sound correspondences to help them "sound out" unknown words.
- Acquiring phonemic awareness is important because it is the foundation for spelling and word recognition skills.
- Auditory/sound blending skills (e.g., What word would you have if you put these sounds together? /s/ /a/ /t/).
- Trouble understanding spelling rules and conventions.
- Have trouble remembering new words and as a consequence have a weak vocabulary and/or word retrieval difficulty.
- Problems with reading fluency.

Phonological Memory weaknesses can cause difficulty learning in the classroom and performing to ability in exams by:

- Difficulty learning new written and spoken vocabulary.
- Difficulty remembering and therefore following complex instructions.
- Impaired ability to comprehend complex written and spoken sentences.
- Difficulty recalling factual information in written texts and lectures.
- Difficulty decoding unfamiliar words (i.e., sounding and blending words especially complex words).
- Poor concentration or attention (e.g., may daydream or distract others if they fail to recall/process instructions).
- Difficulty with rote sequences such as months of the year, the alphabet, times tables, phone numbers etc.
- Difficulty holding speech sounds in memory long enough to determine how to spell and read longer words.

Rapid Naming weaknesses can cause difficulty learning in the classroom and performing to ability in exams by:

- In the classroom, the decoding and naming of numbers, letters and words is practiced becoming automatic in order to develop speed of processing, efficiency or working memory and fluency and accuracy in speaking, reading and writing.
- Individuals who score poorly commonly have problems with reading fluency.
- Lack of automaticity with quickly and accurately identifying letter names/sounds, numbers, phonic patterns (e.g., 'ch' and 'th') and whole words (i.e., sight vocabulary).
- This can affect a child's ability to efficiently decode/encode unfamiliar words.
- It also affects the ability to efficiently recall/retrieve the names of objects, colours and even people's names.
- Slow naming speed can affect how well an individual will be able to integrate and organise ideas in their head, before these ideas are even put into words.
- Becomes more apparent as greater demands are placed on an individual's ability to retrieve information under timed conditions.

Summary of CTOPP-II results:

John's CTOPP-II results indicate that he scored at the **21st percentile** for Phonological Awareness, **21st percentile** for Phonological Memory, and at the **5th percentile** for Rapid Naming.

Contrasted with his comparative WISC-V result (GAI = 82nd percentile), this would suggest that John is having difficulty in all three phonological processing composites.

A deficit in **Phonological Awareness** is viewed as the hallmark of reading disability or dyslexia. Poor phonological awareness is associated with poor reading for both individuals whose poor reading levels are discrepant from their IQs and for individuals whose poor reading levels are consistent with their IQs.

A deficit in **Phonological Memory** does not inevitably lead to poor reading of familiar material but is more likely to impair decoding of new words, particularly words that are long enough to decode bit by bit, as a means of storing intermediate sounds. It is likely to impair both listening and reading comprehension for more complex sentences

Individuals who score poorly in **Rapid Naming** commonly have problems with reading fluency.

CONCLUSION AND STATEMENT OF DIAGNOSIS

SPECIFIC LEARNING DISORDER:

John's academic attainments in **Reading** and **Written Expression** were found to be significantly and substantively below commensurate with those expected given the combination of his chronological age and education/years of schooling, despite 6 or more months of intervention having been received.

As such, John meets the DSM-5 criteria for a **diagnosis** of a **Specific Learning Disorder – with impairment in Reading** (with impairment in Word reading accuracy; Reading rate or fluency) and **Written Expression** (with impairment in Spelling accuracy; Grammar and punctuation accuracy; Clarity or organisation of written expression).

The level of severity is deemed to be **Moderate.**

Further evidence of a SLD in Reading and Writing is provided by his relatively low CTOPP phonological processing scores (Phonological Awareness = 21st percentile, Phonological Memory = 21st percentile, Rapid Naming = 5th percentile) and comparatively higher mathematics ability (Numerical Operations = 53rd percentile; Maths Problem Solving = 45th percentile).

DEPRESSION:

The PsychProfiler results indicate that depression does not appear to be of concern.

ANXIETY:

The PsychProfiler results indicate that anxiety does not appear to be of concern.

ORAL LANGUAGE:

John's background information, positive PsychProfiler screens for Speech Sound Disorder, and speech sound issues observed during testing supports the need for continued speech therapy.

HANDWRITING SPEED:

John's result falls within the Impaired Handwriting Speed category; therefore, OT involvement would seem judicious.

RECOMMENDATIONS

Please note, PECS does not provide micro-strategies (e.g., sit student at front of classroom, etc) as part of their recommendations. PECS's provides recommendations on what further assessment is required, what intervention is necessary, and who is the most appropriate to provide the assessment/intervention recommended.

SCHOOL INVOLVEMENT:

*These results **confirm** that John has a **Specific Learning Disorder – With Impairment in Reading and Written Expression**.*

*For individuals with Specific Learning Disorders to be successful at school, they require two areas of support, **remediation** and **accommodation**.*

***Remediation** involves direct instruction in skills by a specialist teacher and **accommodation** involves adaptations and modifications of curriculum and instructional practices.*

(1) A case-conference involving John's parents and the key school personnel should be held to discuss John's individual learning requirements.

(2) John should continue to undergo remediation/intervention in reading, writing, mathematics, spelling, and language as part of an in-school programme.

(3) In light of these new assessment results, a Documented Plan/Curriculum Adjustment Plan should be initiated / amended by John's teachers in an attempt to maximise John's access to the curriculum.

(4) On-going case management should be carried out by the school, and at the school's discretion, appropriate accommodations and special examination arrangements (as per School Curriculum and Standards Authority guidelines) be granted to John for time-restricted tasks.

(5) If deemed necessary by the school, at the time of his WACE examinations, an application should be made to the School Curriculum and Standards Authority for Special Examination Arrangements.

PSYCHOLOGICAL INVOLVEMENT:

(1) Another assessment will be required to be administered closer to his WACE examinations to satisfy School Curriculum and Standards Authority requirements (if applicable).

PAEDIATRIC INVOLVEMENT:

(1) A copy of this report should be provided to John's Paediatrician.

SPEECH PATHOLOGIST INVOLVEMENT:

(1) The background information, PsychProfiler screens for Speech Sound Disorder, and speech sound difficulties witnessed during testing indicates that further investigation/assessment by a Speech Pathologist would be wise.

For assistance with locating a Speech Pathologist in their local area, John's parents may wish to utilise the "Find a Speech Pathologist" function on the Private Speech Pathologists Association of WA (PSPAWA) website.

www.pspawa.com.au/find-a-speech-pathologist

EDUCATIONAL REMEDIATION:

(1) John would benefit from recommencing reading, writing, and spelling tutoring with his previous tutor or one of the following multi-site places:

Dyslexia SPELD Foundation - Literacy and Clinical Services:
Head Office: 10 Broome Street, SOUTH PERTH WA 6051
(08) 9217 2500 www.dsf.net.au

DSF also has literacy clinics in Albany, Mt Hawthorn, and East Victoria Park: see www.dsfliteracyclinic.com.au

Albany (Earl Street):	(08) 9842 2594	albany@dsf.net.au
Mt Hawthorn (The Mezz):	(08) 9443 8323	mezz@dsf.net.au
East Victoria Park (The Park):	(08) 9470 4140	park@dsf.net.au

DSF also has over 100 tutors across Western Australia, and online tutoring is also available.
To access tutors in your postcode area, you must be a member ($75 per annum) and register at www.dsf.net.au/request-a-tutor
Many of their tutors also provide mathematics tuition.

Kip McGrath Education Centres:
Offers tutoring in reading, spelling, comprehension, English and Mathematics for Kindergarten through to Year 12.

There are Centres located in Balcatta, Booragoon, Bunbury, Busselton, Ellenbrook, Geraldton, Gosnells, Jandakot, Joondalup, Karratha, Margaret River, Mundaring, North Perth, Victoria Park, and Willetton.

In addition to the Centres, face-to face real-time online tutoring at home is also available via webcam.
Education Centres: www.kipmcgrath.com.au Online Tutoring: www.kiponline.com.au

Reading for Sure:
Head Office: 67 Oates Street Carlisle WA 6101
(08) 9355 3129 www.readingforsure.com.au info@readingforsure.com.au

Carlisle: Lynne 0429 161 918 Doubleview: Wendy (08) 9244 7195 Helena Valley: Anne 0418 620 548
Kalamunda: Sandra (08) 9257 2795 Leeming: Marie (08) 9313 5604
Mindarie: Cynthia 0410 523 173 Mundaring: Rochelle 0439 922 751

Reading for Sure is for all ages and offers one-to-one tutoring in reading, spelling, and writing.

Prime Intervention:
Highpoint Boulevard in Ellenbrook & Candlewood Boulevard in Joondalup
0433 053 419 www.primeintervention.com.au management@primeintervention.com.au

Prime Intervention offers one-to-one Literacy & Numeracy intervention for individuals of all ages.

Number Works' n Words Subiaco:
14 – 16 Rowland St, SUBIACO WA 6008
(08) 9388 3727 subiaco@numberworks.com www.numberworks.com/au

NWnWords offers primary and secondary school tuition for students aged between 5 and 16 years in English and Mathematics.

ACES: Academic Clinics for Exceptional Students
Suite 5, 4 Gugeri Street, CLAREMONT WA 6008
(08) 9383 4812 info@aceseducation.org.au www.aceseducation.org.au

ACES offers primary and secondary school literacy and numeracy. tuition for students aged between 7 and 18 years.
Sessions can be at the clinic or via online video-streaming.

OCCUPATIONAL THERAPIST INVOLVEMENT:

(1) John should undergo an assessment by an Occupational Therapist to further investigate if his handwriting speed difficulties are due to a physical impairment such as Motor Dysgraphia, Developmental Coordination Disorder, or other motor dysfunction.

For assistance with locating an Occupational Therapist in their local area, John's parents may wish to utilise the "Find an OT" function on the Developmental Occupational Therapy WA website.

http://dotwa.org.au/private-occupational-therapists

HEARING:

(1) A current hearing test is recommended due to previous testing being at least three years ago.

The below places have Paediatric Audiologists who specialise in diagnosing hearing loss and listening difficulties in children and adolescents.

Duncraig:	www.kidshear.com.au	Hamilton Hill:	www.earscience.org.au
Nedlands:	www.pamgabriels.com.au	Padbury:	www.earscience.org.au
Subiaco:	www.earscience.org.au	Subiaco:	www.kidshear.com.au

Please note, Kids Hear Diagnostic Audiology in Duncraig and Subiaco is affiliated with the Perth ENT Centre. Therefore, Medicare rebates are applicable if you have been referred there by a GP.

HEALTH & WELL-BEING:

(1) It is recommended that John continues his/implements regular exercise and maintains a healthy diet.

Please note, the above is a generic recommendation that should be followed by all and is not a recommendation specific to John due to any of his results or reported behaviours.

23/02/2022

Dr Shane Langsford
Managing Director -PECS
Registered Psychologist
APS College of Educational & Developmental Psychologists Academic Member

Date of Report

APPENDIX 1: FREQUENTLY ASKED QUESTIONS (FAQs)

WHAT IS A COMPREHENSIVE PSYCHOLOGICAL REPORT?

A Comprehensive Psychological Assessment (CPA) is the systematic collection and analysis of developmental, behavioural, socioemotional, cognitive and/or educational information for the purpose of making inferences about underlying brain function.

These inferences are achieved by investigating an individual's strengths and weaknesses across the aforementioned areas and identifying any patterns that may exist.

Ultimately, the investigation's aim is to rule out the presence of any clinically significant conditions, or if indeed present, to facilitate diagnosis of the core underlying problem, identify its aetiology and impact on the individual, and identify any comorbid concerns that may also exist.

Most conditions are genetic, hereditary and familial in nature, with a significant minority being environmental/experiential in origin.

A Comprehensive Psychological Report (CPR) contains the information garnered from the CPA and is primarily compiled to convey the information to other medical, health, and educational professionals (often the referrer) for the purpose of specialist diagnosis, and/or the implementation of intervention/treatment.

WHY SPECIFIC LEARNING DISORDER vs DYSLEXIA / DYSGRAPHIA / DYSCALCULIA?

PECS aligns its diagnostic approach with the DSM-5 as this is the classification system that the educational organisations in Western Australia (e.g., School Curriculum Standards Authority, WA Department of Education, Catholic Education Office, Association of Independent Schools, etc) align with.

The DSM-5 Neurodevelopmental Work Group, who were responsible for the decision to use the term Specific Learning Disorder (SLD) in the DSM-5, "concluded that the many definitions of dyslexia and dyscalculia meant those terms would not be useful as disorder names or in the diagnostic criteria".

PECS therefore only uses the term Specific Learning Disorder (SLD) throughout this report.

In simplistic terms, Dyslexia=a SLD in Reading (and often Spelling); Dyscalculia=a SLD in Mathematics; and Dysgraphia=a SLD in Written Expression.

IS IT CALLED ADD OR ADHD?

As mentioned above, PECS aligns with the DSM-5 which allows for one of the following three diagnoses.

1. *Attention-Deficit/Hyperactivity Disorder: Predominantly Hyperactive/Impulsive Presentation*
2. *Attention-Deficit/Hyperactivity Disorder: Predominantly Inattentive Presentation*
3. *Attention-Deficit/Hyperactivity Disorder: Combined Presentation*

Therefore, the correct acronym if aligning with the DSM-5 is ADHD, not ADD.

ADHD Combined Presentation refers to an individual who has <u>both</u> Hyperactive/Impulsive <u>and</u> Inattentive traits.

AMERICAN PSYCHIATRIC ASSOCIATION

Specific Learning Disorder

The upcoming fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) takes a different approach to learning disorders than previous editions of the manual by broadening the category to increase diagnostic accuracy and effectively target care. Specific learning disorder is now a single, overall diagnosis, incorporating deficits that impact academic achievement. Rather than limiting learning disorders to diagnoses particular to reading, mathematics and written expression, the criteria describe shortcomings in general academic skills and provide detailed specifiers for the areas of reading, mathematics, and written expression.

Characteristics of Specific Learning Disorder

Specific learning disorder is diagnosed through a clinical review of the individual's developmental, medical, educational, and family history, reports of test scores and teacher observations, and response to academic interventions. The diagnosis requires persistent difficulties in reading, writing, arithmetic, or mathematical reasoning skills during formal years of schooling. Symptoms may include inaccurate or slow and effortful reading, poor written expression that lacks clarity, difficulties remembering number facts, or inaccurate mathematical reasoning.

Current academic skills must be well below the average range of scores in culturally and linguistically appropriate tests of reading, writing, or mathematics. The individual's difficulties must not be better explained by developmental, neurological, sensory (vision or hearing), or motor disorders and must significantly interfere with academic achievement, occupational performance, or activities of daily living.

Because of the changes in DSM-5, clinicians will be able to make this diagnosis by identifying whether patients are unable to perform academically at a level appropriate to their intelligence and age. After a diagnosis, clinicians can provide greater detail into the type of deficit(s) that an individual has through the designated specifiers. Just as in DSM-IV, dyslexia will be included in the descriptive text of specific learning disorder. The DSM-5 Neurodevelopmental Work Group concluded that the many definitions of dyslexia and dyscalculia meant those terms would not be useful as disorder names or in the diagnostic criteria.

Broader Approach for Targeted Care

Broadening the diagnostic category reflects the latest scientific understanding of the condition. Specific symptoms, such as difficulty in reading, are just symptoms. And in many cases, one symptom points to a larger set of problems. These problems can have long-term impact on a person's ability to function because so many activities of daily living require a mastery of number facts, written words, and written expression.

Early identification and intervention are particularly important. The broader DSM-5 category of specific learning disorder ensures that fewer affected individuals will go unidentified, while the detailed specifiers will help clinicians effectively target services and treatment.

DSM is the manual used by clinicians and researchers to diagnose and classify mental disorders. The American Psychiatric Association (APA) will publish DSM-5 in 2013, culminating a 14-year revision process.

https://www.psychiatry.org/psychiatrists/practice/dsm/educational-resources/dsm-5-fact-sheets

APPENDIX 3: WISC-V INDEX AND SUBTEST DESCRIPTIONS

WISC-V Primary Indexes:

The **Verbal Comprehension Index (VCI)** measures the individual's ability to access and apply acquired word knowledge. More specifically the VCI is designed to measure the client's ability to verbalise meaningful concepts, think about verbal information, and express themselves using words.

The **Visual Spatial Index (VSI)** measures the individual's ability to evaluate visual details and understand visual spatial relationships in order to construct geometric designs from a model. This skill requires visual spatial reasoning, integration and synthesis of part-whole relationships, attentiveness to visual detail, and visual-motor integration.

The **Fluid Reasoning Index (FRI)** measures the individual's ability to detect the underlying conceptual relationship among visual objects and use reasoning to identify and apply rules. Identification and application of conceptual relationships in the FRI requires inductive and quantitative reasoning, broad visual intelligence, simultaneous processing, and abstract thinking.

The **Working Memory Index (WMI)** measures the individual's ability to register, maintain, and manipulate visual and auditory information in conscious awareness, which requires attention and concentration, as well as visual and auditory discrimination.

The **Processing Speed Index (PSI)** measures the individual's speed and accuracy of visual identification, decision making, and decision implementation. Performance on the PSI is related to visual scanning, visual discrimination, short-term visual memory, visuomotor coordination, and concentration. The PSI assesses the client's ability to rapidly identify, register, and implement decisions about visual stimuli.

The **Full-Scale (FSIQ)** is derived from seven subtests and summarises ability across a diverse set of cognitive functions. This score is typically considered the most representative indicator of general intellectual functioning, unless there is marked variability among the Index Composite Scores (i.e. 18+ difference between the Indexes). Subtests are drawn from five areas of cognitive ability: verbal comprehension, visual spatial, fluid reasoning, working memory, and processing speed.

WISC-V Ancillary Indexes:

The **Quantitative Reasoning Index (QRI)** is derived from the sum of scaled scores for the Figure Weights and subtests. Quantitative reasoning is closely related to general intelligence and can indicate a child's capacity to perform mental math operations and comprehend abstract relationships. Performance on the QRI may help to predict reading and math achievement scores, creative potential, standardised test performance, and future academic success.

The **Auditory Working Memory Index (AWMI)** is derived from the sum of scaled scores for the Digit Span and Letter-Number Sequencing subtests. These subtests require the individual to listen to numbers and letters presented verbally, then recall or sequence them aloud. This index score measures the client's ability to register, maintain, and manipulate verbally presented information.

The **Nonverbal Index (NVI)** is derived from six subtests that do not require verbal responses. This index score can provide a measure of general intellectual functioning that minimises expressive language demands for individuals with special circumstances or clinical needs. Subtests that contribute to the NVI are drawn from four of the five primary cognitive domains (i.e., Visual Spatial, Fluid Reasoning, Working Memory, and Processing Speed).

The **General Ability Index (GAI)** is comprised of five subtests that provides an estimate of general intelligence that is less impacted by working memory and processing speed, relative to the FSIQ. The GAI consists of subtests from the verbal comprehension, visual spatial, and fluid reasoning domains.

The **Cognitive Proficiency Index (CPI)** comprises of four subtests, drawn from the working memory and processing speed domains. The CPI measures the individual's ability to process cognitive information in the service of learning, problem solving, and higher-order reasoning

VERBAL COMPREHENSION INDEX

Similarities (PIS, FSIQ, GAI)

The Similarities subtest involves the child being presented with two words that represent common objects or concepts and describing how they are similar. It is designed to measure verbal concept formation and abstract reasoning. It also involves crystallized intelligence, word knowledge, cognitive flexibility, auditory comprehension, long-term memory, associative and categorical thinking, distinction between nonessential and essential features, and verbal expression.

Vocabulary (PIS, FSIQ, GAI)

The Vocabulary subtest comprises both picture and verbalised items. For picture items, the individual names the depicted object. For verbal items, the individual defines the word that is read aloud. Vocabulary is designed to measure word knowledge and verbal concept formation. It also measures crystallized intelligence, fund of knowledge, learning ability, verbal expression, long-term memory, and degree of vocabulary development. Other abilities that may be used during this task include auditory perception and comprehension, and abstract thinking.

Comprehension (supplementary subtest)

The Comprehension subtest requires the individual to answer questions based on their understanding of general principles and social situations. Comprehension is designed to measure verbal reasoning and conceptualization, verbal comprehension and expression, the ability to evaluate and use past experience, and the ability to demonstrate practical knowledge and judgement. It also involves crystallized intelligence, knowledge of conventional standards of behaviour, social judgment, long-term memory, and common sense.

Information (supplementary subtest)

This subtest involves the individual answering verbally presented questions that address a broad range of general knowledge topics. The subtest is designed to measure an individual's ability to acquire, retain, and retrieve general factual knowledge. It involves crystallized intelligence, long-term memory, and the ability to retain and retrieve knowledge from the environment and/or formal instruction. Other skills used include verbal perception, comprehension, and expression.

VISUAL SPATIAL INDEX

Block Design (PIS, FSIQ, GAI)

All items of the Block Design subtest require the individual to view a constructed model and/ or a picture on the client's iPad/ Stimulus Book and use red-and-white blocks to re-create the design within a specified time limit. This subtest measures the individual's ability to analyses and synthesise abstract visual stimuli. It also involves nonverbal concept formation and reasoning, broad visual intelligence, visual perception and organisation, simultaneous processing, visual-motor coordination, learning, and the ability to separate figure-ground in visual stimuli.

Visual Puzzles (PIS)

The Visual Puzzles subtest requires the individual to view a completed puzzle and select three response options that together would reconstruct the puzzle. The subtest is designed to measure mental, non-motor construction ability, which requires visual and spatial reasoning, mental rotation, visual working memory, understanding part-whole relationships, and the ability to analyse and synthesize abstract visual stimuli. Visual Puzzles measures visual processing and acuity, spatial relations, integration and synthesis of part-whole relationships, nonverbal reasoning, and trial-and-error learning.

FLUID REASONING INDEX

Matrix Reasoning (PIS, FSIQ, GAI)

The individual views an incomplete matrix and selects the missing portion from five response options on the Matrix Reasoning test. The task requires the individual to use visual-spatial information to identify the underlying conceptual rule that links all the stimuli and then apply the underlying concept to select the correct response. The subtest is designed to measure fluid intelligence, broad visual intelligence, classification, and spatial ability, knowledge of part-whole relationships, and simultaneous processing. Additionally, the subtest requires attention to visual detail and working memory.

Figure Weights (PIS, GAI)

The Figure Weights subtest involves the individual viewing a scale, which is missing weight(s) and then they have to select the response option which balances that scale. This task requires the individual to apply the quantitative concept of equality to understand the relationship among objects and apply the concepts of matching, addition, and/or multiplication to identify the correct response. The subtest measures quantitative fluid reasoning and induction. Quantitative reasoning tasks involve reasoning processes that can be expressed mathematically, emphasising inductive or deductive logic.

Picture Concepts (supplementary subtest)

Picture Concepts involves the individual being presented with two or three rows of pictures and them choosing one picture in each row to form a group with a common characteristic. This test requires the individual to use the semantic representations of nameable objects to identify the underlying conceptual relationship among the objects and to apply that concept to select the correct answer. No image appears more than once within the subtest. The subtest is designed to measure fluid and inductive reasoning, visual-perceptual recognition and processing, and conceptual thinking. Additionally, this task requires visual scanning, working memory, and abstract reasoning. It may also involve crystallized knowledge.

Arithmetic (supplementary subtest)
The individual mentally solves a series of orally presented Arithmetic problems within a specified time limit on the Arithmetic subtest. For both the picture and verbal items, Arithmetic involves mental manipulation, concentration, brief focussed attention, working memory, short- and long- term memory, numerical reasoning ability, applied computational ability, and mental alertness. It may also involve sequential processing; fluid, quantitative, and logical reasoning; and quantitative knowledge. Additionally, this task requires intact auditory/ linguistic processes, including auditory discrimination and comprehension, and to a lesser degree verbal expression.

WORKING MEMORY INDEX

Digit Span (PIS, FSIQ)
For Digit Span, the individual is read a sequence of numbers and recalls the numbers in the same order (Forward task), reverse order (Backward task), and ascending order (Sequencing task). The shift from one Digit Span task to another requires cognitive flexibility and mental alertness. All Digit Span tasks require registration of information, brief focussed attention, auditory discrimination, and auditory rehearsal. Digit Span Forward measures auditory rehearsal and temporary storage capacity in working memory. Digit Span Backward involves working memory, transformation of information, mental manipulation, and may involve visuospatial imaging. Digit Span Sequencing is designed to measure working memory and manipulation. Digit Span Sequencing is included to increase the cognitive complexity demands of the subtest. Both the backward and sequencing tasks require the resequencing of information; the primary difference is how the sequence is determined. In the backward task, the location of the number in the sequence must be maintained in working memory for proper resequencing to occur. In the sequencing task, the quantitative value of the number must be maintained in working memory and compared to numbers before and after its occurrence. In this task, the individual does not know where the number will occur in the response until all numbers are administered.

Picture Span (PIS)
The Picture Span subtest requires the individual to memorise one or more pictures presented on the client's iPad/ stimulus book and then identify the correct pictures (in sequential order, if possible) from options on a response page. Picture Span measures visual working memory and working memory capacity. Similar tasks also involve attention, visual processing, visual immediate memory, and response inhibition. The subtest is constructed similarly to existing visual working memory tasks but is relatively novel in its use of semantically meaningful stimuli. The use of these stimuli may activate verbal working memory as well.

Letter-Number Sequencing (supplementary subtest)
Letter-Number Sequencing requires the individual to read a sequence of numbers and letters and recall the numbers in ascending order and the letters in alphabetical order. Like the Digit Span tasks, Letter-Number Sequencing requires some basic cognitive processes, such as auditory discrimination, brief focussed attention, concentration, registration, and auditory rehearsal. Additionally, the task involves sequential processing, the ability to compare stimuli based on quantity or alphabetic principles, working memory capacity, and mental manipulation. It may also involve information processing, cognitive flexibility, and fluid intelligence. The higher order skills represent executive control and resource allocation functions in working memory.

PROCESSING SPEED INDEX

Coding (PIS, FSIQ)
The Coding subtest involves the individual using a key to copy symbols that correspond with simple geometric shapes. Using a key, the individual selects each symbol in its corresponding box within a specified time limit. In addition to processing speed, the subtest measures short-term memory, visual-motor coordination, visual scanning ability, cognitive flexibility, attention, concentration, and motivation. It may also involve visual sequential processing and fluid intelligence.

Symbol Search
The Symbol Search subtest requires the individual to scan a group of symbols and indicate whether the target symbol is present within a specified time limit. In addition to visual-perception and decision-making speed, the subtest involves short-term visual memory, visual-motor coordination, inhibitory control, visual discrimination, psychomotor speed, sustained attention, and concentration. It may also measure perceptual organization, fluid intelligence, and planning and learning ability.

Cancellation (supplementary subtest)
For Cancellation, the individual scans two arrangements of objects (one random, on structured) and marks target objects while working within a specified time limit. The subtest measures rate of test taking, speed of visual-perceptual processing and decision making, visual scanning ability, and visual-perceptual recognition and discrimination. It may also involve attention, concentration, and visual recall.

Please note:
Supplementary Subtests are only administered on an as needed basis when there is a significant discrepancy between the scaled scores of the Primary Subtests within an Index.

APPENDIX 4: WIAT-III SUBTEST DESCRIPTIONS

Please note: Rarely are all WIAT-III subtests administered as part of an assessment.

READING	
Early Reading Skills	Measures several areas deemed important for developing reading skills: naming letters, letter-sound correspondence (alphabetic principle), phonological awareness, and word reading comprehension. The student names letters of the alphabet, identifies and generates rhyming words, identifies words with the same beginning and ending sounds, blends sounds, matches sounds with letters and letter blends, and matches written words with pictures that illustrate their meaning.
Word Reading	Measures speed and accuracy of decontextualized word recognition. The student reads out loud from a list of words that increase in difficulty. The list of words is read without a time limit. The examiner records the student's progress after 30 seconds and continues administration until the discontinue rule is met or the last item is administered.
Reading Comprehension	Measures untimed reading comprehension of various types of text, including fictional stories, informational text, advertisements, and how-to passages. The student may read passages out loud or silently. After each passage, the student orally responds to literal and inferential comprehension questions that are read out loud by the examiner.
Pseudoword Decoding	Measures the ability to decode nonsense words. The student reads out loud from a list of pseudowords that increase in difficulty. The list of pseudowords is read without a time limit. The examiner records the student's progress after 30 seconds and continues administration until the discontinue rule is met or the last item is administered.
Oral Reading Fluency	Measures speed, accuracy, fluency, and prosody of contextualised oral reading. The student reads passages out loud, and then orally responds to comprehension questions after each passage. Fluency is calculated as the average number of words read correctly per minute. A qualitative scale is completed by the examiner to assess the student's reading prosody. Comprehension questions are asked only to encourage reading for meaning; comprehension performance is not scored quantitatively.
MATHEMATICS	
Numerical Operations	Measures untimed, written maths calculation skills in the following domains: basic skills, basic operations with integers, geometry, algebra, and calculus.
Maths Problem Solving	Measures untimed maths problem-solving skills in the following domains: basic concepts, everyday applications, geometry, and algebra. The student provides oral and pointing responses.
Math fluency- Addition	Measures the speed and accuracy of a student's maths (addition) calculations. The student solves written addition problems within a 60-second time limit.
Math fluency- Subtraction	Measures the speed and accuracy of a student's maths (subtraction) calculations. The student solves written subtraction problems within a 60-second time limit.
Math fluency- Multiplication	Measures the speed and accuracy of a student's maths (multiplication) calculations. The student solves writer multiplication problems within a 60-second time limit.
WRITTEN LANGUAGE	
Spelling	Measures written spelling of letter sounds and single words. The student hears each letter sound within the context of a word, and each word within the context of a sentence, and then the student writes the target letter sound or word.
Alphabet Writing Fluency	Measures the ability to write letters of the alphabet within a 30-second time limit. The student may write letters in any order, in cursive or print, in uppercase or lowercase.
Essay Composition	Measures spontaneous, compositional writing skills within a 10-minute time limit.
Sentence Composition	The Sentence Composition subtest contains two components: Sentence Combining: Measures sentence formulation skills and written syntactic maturity. The student combines two or three sentences into one sentence that preserves the meaning of the original sentences. Sentence Building: Measures sentence formulation skills and written syntactic ability. For each item, the student is asked to write one sentence that uses a target word with appropriate context.

APPENDIX 5: DSM-5 SLD Specifiers matched with WIAT-III Subtests

Specific Learning Disorder – With Impairment in Reading (Word reading accuracy; Reading rate or fluency, Reading comprehension**)**

Specific Learning Disorder – With Impairment in Mathematics (Number sense; Memorisation of arithmetic facts; Accurate or fluent calculation, Accurate mathematical reasoning)

Specific Learning Disorder – With Impairment in Written Expression (Spelling accuracy; Grammar and punctuation accuracy; Clarity or organisation of written expression)

READING	**DSM-5 Specific Learning Disorder – With Impairment in Reading**
Early Reading Skills	Word reading accuracy, Reading comprehension
Word Reading	Word reading accuracy
Reading Comprehension	Reading comprehension
Pseudoword Decoding	Word reading accuracy
Oral Reading Fluency - Oral Reading Accuracy - Oral Reading Rate	Word reading accuracy, Reading rate or fluency Word reading accuracy Reading rate or fluency
MATHEMATICS	**DSM-5 Specific Learning Disorder – With Impairment in Mathematics**
Numerical Operations	Number sense, Memorisation of number facts, Accurate or fluent calculation
Maths Problem Solving	Number sense, Memorisation of number facts, Accurate or fluent calculation, Accurate mathematical reasoning
Math Fluency	Memorisation of number facts, Accurate or fluent calculation
- Math fluency- Addition	Memorisation of number facts, Accurate or fluent calculation
- Math fluency- Subtraction	Memorisation of number facts, Accurate or fluent calculation
- Math fluency- Multiplication	Memorisation of number facts, Accurate or fluent calculation
WRITTEN LANGUAGE	**DSM-5 Specific Learning Disorder –With Impairment in Written Expression**
Spelling	Spelling accuracy
Essay Composition	Spelling accuracy; Grammar and punctuation accuracy; Clarity or organisation of written expression
- Word Count	
- Theme Dev. and Text Org.	Clarity or organisation of written expression
- Grammar and Mechanics	Spelling accuracy, Grammar and punctuation accuracy
Sentence Composition	Spelling accuracy; Grammar and punctuation accuracy; Clarity or organisation of written expression
- Sentence Combining	Spelling accuracy; Grammar and punctuation accuracy; Clarity or organisation of written expression
- Sentence Building	Spelling accuracy; Grammar and punctuation accuracy; Clarity or organisation of written expression

APPENDIX 6 - BRIEF BIOGRAPHY OF THE AUTHOR

- Dr Shane Langsford is a highly qualified and very experienced psychologist who has conducted more than 5000 child and adult assessments since establishing Psychological & Educational Consultancy Services in 1999.

- Dr Langsford's qualifications include a Bachelor of Psychology, a Bachelor of Education with First Class Honours, and a PhD in Educational Psychology.

- Dr Langsford is fully registered with the Psychology Board of Australia (PBA) and the Australian Health Practitioners Regulation Agency (AHPRA).

- Dr Langsford is a full member of the Australian Psychological Society (APS), Australian Association of Psychologists (AAPi), Australian ADHD Professionals Association (AADPA), and the School Psychologist's Association of Western Australia (SPAWA).

- Dr Langsford is also an APS College of Educational & Developmental Psychologists Full Academic Member. To be awarded Full Academic Member status, an individual must have completed a PhD in psychology, have at least two years' experience as a researcher or educator in psychology in the College specific area of practice, and have published a notable body of relevant research in the College-specific area of practice.

- In 2015, Dr Langsford was personally selected from a shortlist by the then Federal Minister of Health (the Hon Sussan Ley) to be part of the 13-member Mental Health Expert Reference Group (MHERG). The group was formed to provide advice to the Commonwealth Department of Health in relation to the government's response to the National Review of Mental Health Programmes and Services. Dr Langsford was the only practising psychologist in Australia appointed to the group, and the only member in the group from Western Australia. (For more information, see https://www.pecs.net.au/pecs-profile)

- With regards to ADHD, Dr Langsford has conducted over 3000 ADHD assessments for various Psychiatrists and Paediatricians, was asked in 2014 to be on the National Shire ADHD Expert Panel for the "A Snapshot of ADHD: A Consumer and Community Discussion", and in April 2018 was the only Psychologist from Australia participating in the ADHD Institute's "Meeting of the Minds" forum in Madrid – which is an invite-only meeting "providing a forum for ADHD scientists and clinicians to discuss the latest scientific evidence and share best practice in the management of ADHD". Dr Langsford was for the second year running once again the only Psychologist from Australia invited to the 2019 Forum, which was held in Munich (Germany) in November 2019, and also again for the 2020 Forum in Stockholm (Sweden).

- Dr Langsford's extensive knowledge of a wide range of disorders led to the creation of the PsychProfiler, which is a reliable and valid instrument oriented to the DSM-5 and has been the most widely used Australian global psychiatric/psychological/educational assessment tool since 2004.
  (For more information, see https://www.psychprofiler.com)