

Assessing College Students for Learning Disabilities: Using Data from WAIS-IV and WIAT-III

Gloria Maccow, Ph.D.
Assessment Training Consultant

ALWAYS LEARNING PEARSON

Agenda

- Describe components of WAIS-IV and WIAT-III used to evaluate college students for possible SLD classification.
- Use sample data to illustrate interpretive process.

2 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

WAIS-IV Content and Structure
Ages 16 - 90

<p>Verbal Comprehension Scale</p> <p><i>Core Subtests</i> Similarities Vocabulary Information</p> <p><i>Supplemental Subtests</i> Comprehension</p>	<p>Perceptual Reasoning Scale</p> <p><i>Core Subtests</i> Block Design Matrix Reasoning Visual Puzzles <i>New!</i></p> <p><i>Supplemental Subtests</i> Picture Completion Figure Weights (16-69) <i>New!</i></p>
<p>Full Scale</p>	
<p>Working Memory Scale</p> <p><i>Core Subtests</i> Digit Span Arithmetic</p> <p><i>Supplemental Subtests</i> Letter-Number Sequencing (16-69)</p>	<p>Processing Speed Scale</p> <p><i>Core Subtests</i> Symbol Search Coding</p> <p><i>Supplemental Subtests</i> Cancellation (16-69) <i>New!</i></p>

3 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

WIAT-III: 16 Subtests

- Listening Comprehension
- Oral Expression
- Early Reading Skills
- Word Reading
- Pseudoword Decoding
- Oral Reading Fluency
- Reading Comprehension
- Alphabet Writing Fluency
- Spelling
- Sentence Composition
- Essay Composition
- Numerical Operations
- Math Problem-Solving
- Math Fluency Addition
- Math Fluency Subtraction
- Math Fluency Multiplication

4 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

WIAT-III: 7 Domain Composite Scores

- Oral Language
- Total Reading
- Basic Reading
- Reading Comprehension & Fluency
- Written Expression
- Mathematics
- Mathematics Fluency

5 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

What do the measures offer?

Why are they important for the diagnosis of SLD of college students?

ALWAYS LEARNING

PEARSON

Mediating Factors

Processing Speed
Working Memory

Conservation of cognitive resources

7 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

Working Memory (WM)

- WM contributes the second largest amount of variance, after VC, to the prediction of reading, writing, and mathematics scores on the WIAT and other measures of achievement (Konold, 1999; Hale et al., 2001).
- High correlations between working memory and reading comprehension have been replicated numerous times (see Daneman & Merikle, 1996).

8 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

Implications for Learning

- A weakness in working memory may make the processing of complex information more time consuming, and tax the student's mental energies more quickly compared to others of the same age.
- This may contribute to more frequent errors on a variety of learning tasks, excessive fatigue, or difficulty tolerating frustration.
- Deficits in the executive function system of planning, organization, and the ability to shift cognitive sets should also be evaluated with these students.

9 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

WAIS-IV: Composite Scores

Working Memory Index

- Essential component of fluid reasoning and other higher order skills.
- Closely related to achievement and learning.

See Fry & Hale, 1996; Perlow, Juttuso, & Moore, 1997; Swanson, 1996

10 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

Importance of Processing Speed

- Performance on the PSI is an indication of the rapidity with which an individual processes routine information without making errors.
- Many learning tasks involve a combination of routine information processing and complex information processing (such as reasoning).
 - For example, reading

11 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

Importance of Processing Speed

- A weakness in the speed of processing routine information may make the task of comprehending novel information more time-consuming and difficult.
- A weakness in simple visual scanning and tracking may leave an individual less time and mental energy for the complex task of understanding new material.

12 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

WAIS-IV: Composite Scores

Processing Speed Index

- Dynamically related to mental capacity, reading performance & development, and reasoning by conservation of resources (e.g., efficiency)
- See Fry & Hale, 1996; Kail, 2000; Kail & Hall, 1994; Kail & Salthouse, 1994)

13 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

WIAT-III: Reading Comprehension

- WIAT-III provides a purer measure of comprehension skills than most other assessments
- Item-set approach permits *control* of confounding variables
 - Vocabulary
 - Word Attack

Grade	Items
1	1 - 18
2	5 - 24
3	11 - 31
4	25 - 45
5	32 - 53
6	38 - 59
7	46 - 67
8	54 - 75
9-12*	60 - 84

14 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

WIAT-III: Reading Comprehension

IF you reverse to lower item sets, the proper statement would be:

- Howard's reading comprehension skills, as measured by the WIAT-III, are within the average range.
- He was able to demonstrate his skills in answering literal and inferential questions, only with reading passages that were somewhat below his current grade placement.

15 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

WIAT-III: Reading Comprehension

IF you reverse to easier item sets, the proper statement is:

- In reviewing Howard's scores on the other <reading, oral language subtests>, it is apparent that his difficulties with <word attack skills, vocabulary, oral language> likely impact his ability to comprehend reading material at grade level.

16 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

Word Reading and Pseudoword Decoding - Item Analysis

- Items categorized under three content area domains: Morphology Features, Vowel Features, and Consonant Features.
 - Within domains, items measure a variety of word recognition skills, such as recognizing common prefixes and suffixes, recognizing vowel and consonant digraphs, etc.
- The specific parts of each word read incorrectly are recorded.
 - E.g., if student incorrectly read (in) as on, select the single short vowel i as an error.
- Conducting this skills analysis yields specific information about a student's word identification strengths and weaknesses.

17 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

Listening Comprehension

Carlisle (1991) explains that it is necessary to assess both listening comprehension and reading comprehension because students can perform poorly on reading comprehension measures for different reasons.

18 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

Listening Comprehension

- If the student has significant language comprehension problems, he or she would be expected to perform poorly on measures of listening comprehension and reading comprehension.
- However, a student who performs poorly on a reading comprehension measure, but performs well on a listening comprehension measure, may have poor word recognition skills, rather than a comprehension problem (Carlisle, 1991).

19 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

Why have Written Expression Measures at Multiple Levels?

It is important to evaluate written expression at subword, word, and text levels because:

- difficulty with composition (a high-level skill) may be due to impaired low-level skills such as handwriting, spelling, and grammar.
- word writing skills do not predict sentence writing or composition writing skills.
- sentence writing skills do not predict composition writing skills (Berninger, Cartwright, Yates, Swanson, & Abbott, 1994; Whitaker, Berninger, Johnston, & Swanson, 1994).

20 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

Word Count in Essay Composition

- Word Count is a measure of productivity, and has been shown to be a sensitive indicator of writing disorders.
- The Word Count score was optional on the WIAT-II; however, it contributes to the subtest score on the WIAT-III.

21 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

Scoring - Written Expression

Supplemental scoring procedure to evaluate grammar and mechanics

- Correct and Incorrect Word Sequences (CIWS) for written expression
 - Count correct and incorrect sequences of words according to specified rules in manual
 - Appendix B.7

Critical Features in Math Disorders

- Bryant, Bryant, and Hammill (2000) found that individuals diagnosed with math learning disabilities most often have trouble with
 - multistep problem solving,
 - regrouping and renaming, and
 - recalling number facts automatically.
- Bryant et al. conclude that having difficulty with “multistep problems is the single most important behavior for predicting math weaknesses” (p. 175).
- *The WIAT-III mathematics subtests include items that measure these critical skills.*

Why include Math Fluency Items?

- Math computation fluency facilitates more complex problem solving and the acquisition of higher-level mathematics skills.
- The NCTM lists “the ability to compute fluently” (p. 152) as an instructional standard for kindergarten through eighth grade.
 - By ninth grade, math fluency is no longer listed as a standard because it is an assumed skill.

Interpretation
Application of Concepts

ALWAYS LEARNING

PEARSON

WAIS-IV: Composite Scores

Full Scale IQ

- Based on 10 core subtests

Index Scores: Primary interpretation level

- VCI & PRI: 3 core subtests each
- WMI & PSI: 2 core subtests each

GAI = VCI + PRI

- Optional Index score

26 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

What is the GAI?

The WAIS-IV GAI provides the practitioner with a summary score that is less sensitive than the FSIQ to the influence of working memory and processing speed.

GAI = sum of scaled scores for VCI subtests and PRI subtests.

27 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

General Ability Index

Consider using the GAI if a significant and unusual discrepancy exists between

- ✓ VCI and WMI;
- ✓ PRI and PSI
- ✓ WMI and PSI, or
- ✓ between subtests within WMI and/or PSI.

Deriving and Analyzing the GAI

Step 1. Obtain the General Ability Sum of Scaled Scores

Step 2. Determine the GAI Score
(Table C.1; WAIS-IV Technical Manual)

Step 3. Perform the FSIQ-GAI Discrepancy Comparison
(Table C.2, C.3; WAIS-IV Technical Manual)

Suggested Procedures for Basic Profile Analysis

- Step 1. Report and Describe the FSIQ
- Step 2. Report and Describe the Index Scores (VCI, PRI, WMI, PSI)
- Step 3. Evaluate Index-Level Discrepancy Comparisons
- Step 4. Evaluate Subtest-Level Strengths and Weaknesses

**Suggested Procedures for
Basic Profile Analysis**

Step 5. Evaluate Subtest-Level
Discrepancy Comparisons

Step 6. (Optional) Evaluate the Pattern
of Scores Within Subtests

31 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

Process Scores

Block Design
– Block Design No Time Bonus (BDN)

Digit Span
– Digit Span Forward (DSF)
– Digit Span Backward (DSB)
– Digit Span Sequencing (DSS)
– Longest Digit Span Forward (LDSF)
– Longest Digit Span Backward (LDSB)
– Longest Digit Span Sequence (LDSS)

Letter-Number Sequencing
– Longest Letter-Number Sequence (LLNS)

32 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

Thinking About Interpretation

- Input Requirements
 - e.g., Hearing, Vision, Motor, etc...
- Output Requirements
 - Minimal verbal expression to maximal verbal expression required.
 - Minimal motor output required to maximal motor output required.

33 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

Thinking About Interpretation

- Characteristics of Response
 - Correct, Efficient and Automatic
 - Incorrect, Efficient and Automatic
 - Correct, Inefficient and Effortful
 - Incorrect, Inefficient and Effortful

34 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

Factors that can Influence Performance

- Acuity
- Attention
- Executive Functioning
- Working Memory
- Language Impairment
- Visual-Spatial Processing
- Fatigue
- Poor Effort
- Impulsivity

35 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

Goal Statements

- Goal statements are provided according to content area domain or specific skills
 - *Early Reading Skills, Reading Comprehension, Numerical Operations, Math Problem Solving, Word Reading, Pseudoword Decoding, Spelling.*
- Goal statements are also available for the following three subtests that do not have item-level or within-item level skills analysis:
Oral Reading Fluency, Sentence Composition, and Essay Composition.

36 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

Goals and Objectives

Reading Comprehension

Literal

Items with Errors: 51, 56, 60, 66

Annual Goal

- Given a/an (circle: expository, narrative) passage at a ____ reading level, the student will read the passage (circle: aloud, silently) and then answer ____ (circle: oral, written), (circle: open-ended, multiple-choice, true/false, yes/no) literal comprehension questions with ____ percent accuracy, looking back to the passage as needed to answer the questions.

Short-Term Objectives

- Given a/an (circle: expository, narrative) passage at a ____ reading level, the student will read the passage (circle: aloud, silently), listen to each of ____ oral, open-ended literal comprehension questions, and then point to/read the part of the passage that explicitly provides the answer to each question with ____ percent accuracy.
- Given a/an (circle: expository, narrative) passage at a ____ reading level, the student will read the passage (circle: aloud, silently) and then answer ____ (circle: oral, written), (circle: open-ended, multiple-choice, true/false, yes/no) literal comprehension questions about who, what, when, where, and why facts that were explicitly stated in the passage with ____ percent accuracy, looking back to the passage as needed to answer the questions.

37 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

Sample Data

June16 - Age 19:1

ALWAYS LEARNING PEARSON

Intake Information

- June16 is a 19-year-old male who is interested in enrolling in college.
- With support services, he graduated from highschool with a 2.5 GPA.
- Since elementary grades, he received direct specialized instruction because of a Specific Reading Disability.

39 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

Intake Information

- June16 is concerned about his ability to succeed in college and contacted the Office of Disability Concerns at his local Community College.
- The Office of Disability Concerns requested a psychoeducational evaluation to determine if June16 has a Specific Learning Disability.

40 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

Contextual Analysis

- In acquiring new information, how does June16 encode, consolidate, retrieve information presented verbally/visually?
- How does he receive, perceive, process, and remember information?

41 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

Contextual Analysis

Success in acquisition of information requires fundamental and higher-order cognitive abilities. For example,

- attention, visual scanning and tracking, linguistic and perceptual ability, speed of processing.
- conceptualization, reasoning, problem-solving, shifting set.

42 | COPYRIGHT © 2011. ALL RIGHTS RESERVED.

PEARSON

Contextual Analysis

Success in acquisition of information requires fundamental and higher-order cognitive abilities.

- Low level skills must be at a certain level of automaticity to conserve cognitive resources.
- Low level skills enhance or detract from expression of higher-order skills.

43 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

WAIS-IV Scores

Index/Subtest	Composite Score/ Scaled Score	Index/Subtest	Composite Score/ Scaled Score
<i>Verbal Comprehension</i>	116	<i>Perceptual Reasoning</i>	115
Information	11	Block Design	12
Similarities	13	Matrix Reasoning	13
Vocabulary	15	Visual Puzzles	13
<i>Working Memory</i>	86	<i>Processing Speed</i>	84
Arithmetic	9	Coding	5
Digit Span	6	Symbol Search	9
Full Scale IQ 104		General Ability Index 118	

44 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

Index-Level Discrepancy Comparisons

Comparison	Score 1	Score 2	Difference	Critical Value .05	Significant Difference Y / N	Base Rate Overall Sample
VCI - PRI	116	115	1	9.29	N	48.2
VCI - WMI	116	86	30	9.29	Y	1.5
VCI - PSI	116	84	32	10.99	Y	2.6
PRI - WMI	115	86	29	10.17	Y	1.7
PRI - PSI	115	84	31	11.75	Y	2.3
WMI - PSI	86	84	2	11.75	N	45.7
FSIQ - GAI	104	118	-14	3.41	Y	0.2

45 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

Verbal Comprehension Subtests

Vocabulary
 Relative Strength

- Measures
- ability to verbalize meaningful concepts
 - ability to retrieve information from long-term memory

Information
 Relative Weakness

- Measures
- fund of general knowledge

Working Memory Subtests

- June16's abilities to sustain attention, concentrate, and exert mental control are a weakness relative to his nonverbal and verbal reasoning abilities.
- A weakness in mental control may make the processing of complex information more time-consuming for June16, draining his mental energies more quickly as compared to others at his level of ability, and perhaps result in more frequent errors on a variety of learning or complex work tasks.

Digit Span

Working Memory Process Score Summary				
Process Score	Raw Score	Scaled Score	Percentile Rank	Base Rate
Digit Span Forward	5	3	1	--
Digit Span Backward	8	9	37	--
Digit Span Sequencing	8	9	37	--
Longest Digit Span Forward	3	--	--	100
Longest Digit Span Backward	7	--	--	15.5
Longest Digit Span Sequence	5	--	--	88.5

Digit Span

Process Level Discrepancy Comparisons

Process Comparison	Score 1	Score 2	Diff.	Critical Value .05	Sign. Diff. Y / N	Base Rate
DSF - DSB	3	9	-6	3.65	Y	3.4
DSF - DSS	3	9	-6	3.6	Y	4.6
DSB - DSS	9	9	0	3.56	N	
Longest DSF - Longest DSB	3	7	-4	--	--	0
Longest DSF - Longest DSS	3	5	-2	--	--	6.5
Longest DSB - Longest DSS	7	5	2	--	--	3

49 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

PSI: Strengths and Needs

- Ability to mentally process routine information rapidly without making errors is in the low-average range.
- He performed much better on Symbol Search (Scaled score = 9), which is more demanding of attention to detail and visual discrimination, than on Coding (scaled score = 5), which is more demanding of fine-motor skills, short-term memory, and learning ability.

50 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

PSI: Functional Implication

Learning often involves a combination of routine information processing (such as reading decoding/word naming) and complex information processing (such as reasoning).

51 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

PSI: Functional Implication

A weakness in the speed of processing routine information may make the task of comprehending novel information more time-consuming and difficult for June16.

52 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

PSI: Functional Implication

A weakness in simple visual scanning and tracking may leave him less time and mental energy for the complex task of understanding new material.

53 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

Further Questions

- Is there a discrepancy between June16's ability and achievement?
- What are his academic strengths and needs?

54 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

Assessing College Students for SLD Classification: Using WAIS-IV and WIAT-III
 Gloria Maccow, Ph.D., Assessment Training Consultant

Ability Score Type: WAIS-IV GAI Ability Score: 118

Ability–Achievement Discrepancy Analysis

WIAT-III Composite	Predicted WIAT-III Score	Actual WIAT-III Score	Expected Diff.	Critical Value .05	Sign. Diff. Y/N	Base rate
Oral Language	114	98	16	10.15	Y	≤5%
Basic Reading	110	91	19	5.01	Y	≤10%
Written Expression	111	90	21	7.25	Y	≤5%
Mathematics	112	124	-12	6.05	Y *	N/A
Math Fluency	109	111	-2	7.07	N	N/A

55 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. **PEARSON**

Ability Score Type: WAIS-IV GAI Ability Score: 118

Ability–Achievement Discrepancy Analysis

WIAT-III Subtest	Predicted WIAT-III Score	Actual WIAT-III Score	Expected Diff.	Critical Value .05	Sign. Diff. Y/N	Base Rate
Listening Comprehension	112	113	-1	13.92	N	N/A
Receptive Vocabulary		117				
Oral Discourse Comprehension		103				
Reading Comprehension	112	90	22	13.25	Y	≤5%
Word Reading	111	94	17	6.02	Y	≤10%
Pseudoword Decoding	108	89	19	5.52	Y	≤10%

56 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. **PEARSON**

Ability Score Type: WAIS-IV GAI Ability Score: 118

Ability–Achievement Discrepancy Analysis

WIAT-III Subtest	Predicted WIAT-III Score	Actual WIAT-III Score	Expected Diff.	Critical Value .05	Sign. Diff. Y/N	Base Rate
Oral Expression	114	84	30	11.32	Y	≤1%
Expressive Vocabulary		103				
Oral Word Fluency		74				
Sentence Repetition		85				

57 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. **PEARSON**

Assessing College Students for SLD Classification: Using WAIS-IV and WIAT-III
 Gloria Maccow, Ph.D., Assessment Training Consultant

Ability Score Type: WAIS-IV GAI Ability Score: 118

Ability–Achievement Discrepancy Analysis

WIAT–III Subtest	Predicted WIAT-III Score	Actual WIAT-III Score	Expected Diff.	Critical Value .05	Sign. Diff. Y/N	Base Rate
Spelling	110	103	7	6.54	Y	>15%
Sentence Composition	108	83	25	10.87	Y	≤5%
Sentence Combining		91				
Sentence Building		77				
Essay Composition	107	92	15	10.37	Y	≤15%
Grammar & Mech.	107	78	29	11.92	Y	≤5%

58 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

Ability Score Type: WAIS-IV GAI Ability Score: 118

Ability–Achievement Discrepancy Analysis

WIAT–III Subtest	Predicted WIAT-III Score	Actual WIAT-III Score	Expected Diff.	Critical Value .05	Sign. Diff. Y/N	Base Rate
Math Problem-Solving	111	117	-6	7.82	N	N/A
Numerical Operations	112	127	-15	6.75	Y*	N/A
Math Fluency Addition	109	103	6	10.91	N	N/A
Math Fluency Subtraction	109	112	-3	10.51	N	N/A
Math Fluency Multiplication	108	116	-8	10.00	N	N/A

59 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

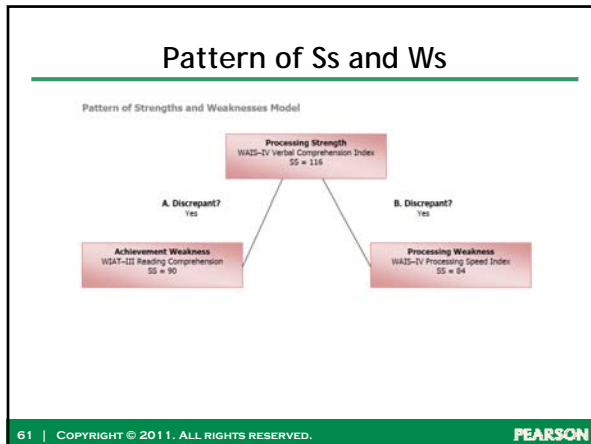
Pattern of Ss and Ws

Pattern of Strengths and Weaknesses Analysis

Area of Achievement Weakness	WIAT–III	Reading Comprehension: 90				
Area of Processing Weakness	WAIS–IV	PSI: 84				
Area of Processing Strength	WAIS–IV	VCI: 116				
Comparison	Relative Strength Score	Relative Weakness Score	Difference	Critical Value .05	Significant Difference Y / N	Supports SLD hypothesis? Yes / No
A Processing Strength / Achievement Weakness	116	90	26	13.47	Y	Yes
B Processing Strength / Processing Weakness	116	84	32	11.00	Y	Yes

The PSW model is intended to help practitioners generate hypotheses regarding clinical diagnoses. This analysis should always be used within a comprehensive evaluation that incorporates multiple sources of information.

60 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON



Conclusions

- The data indicate reading comprehension skills (= 90) are a weakness relative to higher-order conceptualization and reasoning abilities (GAI = 118).
- The weakness in reading comprehension is due to a weakness in processing routine information quickly.
- June16 is unable to name words effortlessly and this reduces the mental energy he has available for the complex task of comprehension.

62 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

Recommendations

- Use associative linkages when encoding information. By linking new information to what has been learned previously, he may be able to gain a more global understanding of the information and improve recall.
- Record assigned material and play back the recording to take notes about main ideas and important details, as well as to review vocabulary.
- Verbalize what is going to be learned. For example, say each new vocabulary word both aloud and silently. Emphasize verbal cues, directions, and memory strategies.

63 | COPYRIGHT © 2011. ALL RIGHTS RESERVED. PEARSON

Customer Service
800-627-7271
www.psychcorp.com

Comments or Questions
Gloria Maccow, Ph.D.
gloria.maccow@pearson.com
Voice: 724-766-7692

ALWAYS LEARNING PEARSON
