Objectives

1. Describe process-oriented assessment.
2. Describe WISC-V Integrated.
3. Illustrate clinical utility of WISC-V Integrated.

Purpose of WISC-V Integrated

1. Assess cognitive and problem-solving processes (ages 6:0–16:11).
2. Help clinicians understand how examinee learns.
3. Facilitate interpretation of low scores on WISC-V.
What is WISC-V Integrated?

WISC-V Integrated:
Process-Oriented Assessment

Process-Oriented Assessment

Everything Old is New Again . . .

Careful, systematic observation of a child’s problem-solving strategy (process) can yield richer and more useful information about cognitive functioning than simple right-wrong scoring of their final solution (product).

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Boston Process Approach

Edith Kaplan
1988

Qualitative Evaluation of Test Performance
Quantitative Evaluation of Scores

Utility of Process Scores

1. Provide additional information about subtest performance.
2. Enhance depth of interpretation and understanding of performance.
3. Facilitate understanding of scores from a process approach perspective.

WISC-V Integrated: The Best of Both Worlds

Product ("What?")

- Level of performance
- Quantitative
- Scores
- Norm-referenced

Process ("Why?")

- Nature of behaviors
- Qualitative/Quantitative
- Strategies
- Correlates with brain function

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Assumptions of the Process-Oriented Approach

Any one factor – or a combination of factors – may contribute to a child’s performance on a task.

Cognitive tests are multi-factorial

Assumptions of the Process-Oriented Approach

Process-oriented approach attempts to identify cognitive sub-processes contributing to score.

E.g., for Vocabulary:

- Receptive language problem - Difficulty understanding directions, stimulus words
- Lack of word knowledge
- Difficulty accessing mental lexicon - Problems with retrieval from long-term storage
- Expressive language problem

Barbara
Scaled Score = 5
Lacks semantic knowledge: Does not know what words mean

Joseph
Scaled Score = 5
Expressive language problem: Knows word meanings, but cannot produce the words to express his knowledge
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**Block Design**

**Rose**
Scaled Score = 5
Poor visual-perceptual and spatial reasoning abilities.

**Mark**
Scaled Score = 5
Poor visuomotor skills.

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**Digit Span**

**Sue**
Scaled Score = 6
Below average storage capacity.

**Sam**
Scaled Score = 6
Below average mental manipulation.

---

**Coding**

**Aaron**
Scaled Score = 5
Slow processing speed.

**Jason**
Scaled Score = 5
Slow graphomotor speed.
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WISC-V and WISC-V Integrated

<table>
<thead>
<tr>
<th>Domain</th>
<th>WISC-V</th>
<th>WISC-V Integrated</th>
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<tr>
<td>Sequential Reasoning</td>
<td>Multiple Choice</td>
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<td>Comprehension</td>
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<td>Visual Spatial</td>
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<td>Picture Arrangement</td>
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<td>Working Memory</td>
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<td>Picture Span</td>
<td>Spatial Span</td>
<td>Spatial Span Visual Memory (WIX-VR)</td>
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<td>Digit Span</td>
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<td>Processing Speed</td>
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<tr>
<td>Coding</td>
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<tr>
<td>Cancellation</td>
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</table>

Process Subtests

14 Optional Process Subtests

- 8 Adaptations
- 2 Variations
- 4 Expansions/Extensions
### Adaptations

Same item content as corresponding primary or secondary WISC-V subtest, and modifications to mode of presentation, response format, or item administration.

- Similarities MC
- Vocabulary MC
- Picture Vocabulary MC
- Comprehension MC
- Information MC

### Variations

Novel item content and modifications to mode of presentation, response format, or item administration.

- Block Design MC
- Cancellation Abstract

### Expansions/Extensions

Expand scope of construct coverage and provide information related to child’s performance on other subtests.

- Coding Copy
- Coding Recall
- Sentence Recall
- Spatial Span
**Process Subtest Selection**

- Don’t use all processing subtests/procedures with every child
- Select based upon:
  - Referral questions
  - Observations made during core assessment
  - Need to collect confirmatory data

**Description of Process Subtests**

**Verbal Multiple Choice Process Subtests**
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**Verbal Multiple Choice Process Subtests**

- Similarities Multiple Choice (Similarities MC)
- Vocabulary Multiple Choice (Vocabulary MC)
- Picture Vocabulary Multiple Choice (Picture Vocabulary MC)
- Information Multiple Choice (Information MC)
- Comprehension Multiple Choice (Comprehension MC)

**Verbal Multiple Choice Process Subtests**

- Each subtest uses frequently given correct and incorrect responses from the related WISC-V version.
- All but Picture Vocabulary MC and Information MC scored on a 2, 1, 0 basis as on WISC-V subtests.
- Rationale: Integrated subtests remove the need for using expressive language or recalling information from long-term storage.

**Similarities Multiple Choice (SIMC)**

- SIMC is a multiple-choice adaptation of the WISC–V Similarities subtest.
- Each item and its response options are presented visually and read aloud.
- The child selects the response option that best represents how the common objects or concepts are similar.
Vocabulary Multiple Choice (VCMC)

- VCMC is a multiple-choice adaptation of the WISC–V Vocabulary subtest.
- For each picture item, the child views a picture and selects the best response from options read aloud.
- For verbal items, each item and its response options are presented visually and read aloud.
- The child selects the response option that best represents the definition of the word.

Picture Vocabulary Multiple Choice (PVMC)

- PVMC is a pictorial multiple-choice adaptation of the WISC–V Vocabulary subtest.
- The child views four pictures and selects the picture that best depicts the definition of the word that is presented verbally.

Information Multiple Choice (INMC)

- INMC is a multiple-choice adaptation of the WISC–V Information subtest.
- Each item and its response options are presented visually and read aloud.
- The child selects the response option that best represents an understanding of the general knowledge topic.
Comprehension Multiple Choice (COMC)

• COMC is a multiple-choice adaptation of the WISC–V Comprehension subtest.
• Each item and its response options are presented visually and read aloud.
• The child selects the response option that best represents an understanding of the general principle or social situation.

Visual Spatial Process Subtests

Block Design Multiple Choice (BDMC)

• BDMC is a multiple-choice variation of the WISC–V Block Design subtest.
• The child views a picture of a constructed block design and selects the pictured block set that produces a matching composition, within a specified time limit.
• Assesses visual integration and mental construction skills without the influence of motor planning and execution.
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Fluid Reasoning Process Subtests

**Figure Weights Process Approach (FWP)**  
- FWP is an *adaptation* of the WISC–V Figure Weights subtest in which the child is given additional time to respond.  
- Within an extended time limit, the child is readministered Figure Weights items previously scored 0 points.

**Arithmetic Process Approach (ARP)**  
- ARP is an *adaptation* of the WISC–V Arithmetic subtest. Specific items 6–34 are presented in multiple modalities for the child to solve within a specified time limit.  
- For Part A, Arithmetic items on which the child scored 0 points are presented visually and simultaneously read aloud.  
- For Part B, the child is provided paper and pencil, and is readministered the items scored 0 points in Part A.
Written Arithmetic (WA)

- WA is an adaptation of the WISC-V Arithmetic subtest.
- The child is presented with the mathematical computations for Arithmetic items and uses a pencil to complete them.

Arithmetic Process Approach and Written Arithmetic

Working Memory

Math Skills

Performance on AR Subtest

Working Memory Process Subtests
Spatial Span (SSP)

- SSP is a variation of the WISC–V Digit Span subtest. DS uses numbers; SSP uses letters.
- For Spatial Span Forward, the child reproduces a sequence of tapped blocks.
- For Spatial Span Backward, the child reproduces in reverse order a sequence of tapped blocks.

Spatial Span (SSP)

- SSP provides an assessment of spatial working memory.
- SSP score can be contrasted with various verbal working memory measures.
- Letters/words/pseudowords are easier to remember and administer/score.

Sentence Recall (SR)

- SR items are composed of two tasks: a question task and a recall task.
- For the question task, the child responds either “Yes” or “No” to one or more simple questions.
- For the recall task, the child recalls the last word of each question, in the order presented.
Coding Recall (CDR)

- CDR expands the scope of the WISC–V Coding subtest.
- Working within a specified time limit and without a key, the child attempts to remember the corresponding pairs from Coding in three formats: cued recall, free recall, and pairing.
- After completing Coding, examinee recalls:
  - symbols associated with each number of shape: cued (Form A and Form B);
  - symbols via free recall;
  - numbers associated with each symbol: pairing (Form B only).

Coding Copy (CDC)

- CDC expands the scope of the WISC–V Coding subtest.
- Within a specified time limit, the child copies the symbols used in Coding.
- Allows examiner to assess impact of graphomotor speed on performance on Coding.
  - Low scores on Coding Copy: Possibly poor graphomotor speed interfering with Coding performance.
  - High scores on Coding Copy: Possibly poor incidental learning and visual scanning interfering with Coding performance.
Cancellation Abstract (CAA)

- CAA is a variation of the WISC-V Cancellation subtest.
- Working within a specified time limit, the child scans two arrangements of shapes (one random, one structured) and marks target shapes.

Scores

- Subtest Scores
  - Scores on the 14 WISC-V Integrated process subtests are reported as scaled scores (mean = 10; standard deviation = 3).
  - The scaled scores for the process subtests are for comparison purposes only.

  Scaled scores for process subtests are not used in the calculation of WISC-V Primary Index Scores and Full Scale IQ.
Composite Scores

- **MCVCI (Multiple Choice Verbal Comprehension Index)**
  - SIMC + VCMC
  - Provides an estimate of verbal comprehension
  - Helpful for examinees with expressive language difficulties

- **VWMI (Visual Working Memory Index)**
  - Picture Span + Spatial Span
  - Compare with WISC-V AWMI
  - Working memory domain specific at this age-range

Other Scores

- Parts, where it makes sense
  - e.g., Spatial Span Forward, Spatial Span Backward, and comparison
  - e.g., Arithmetic Process Approach Part A and Part B, and comparison

- Longest span scores

Process Observations

- The same process observations as are available on WISC-V in Appendix D of the Technical and Interpretive Manual.
- Base rates for behaviors.
Comparison Scores

Discrepancy comparisons with WISC-V
– Compare process scores and subtests
– Compare composite scores where it makes sense
  (e.g., VCI vs. MCVCI)

Male, Grade 5, Age 10:5

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<th>WISC-V Index/Subtest</th>
<th>Composite Score/Scaled Score</th>
<th>WISC-V Index/Subtest</th>
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Addition of WISC-V Integrated

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(WISC-V Integrated, 2015)

WISC-V Integrated Kit

- Administration and Scoring Manual
- Technical and Interpretive Manual
- Record Form
- Stimulus Books 1 and 2
- Response Booklets 1 and 2
- Coding Recall Scoring Key
- Cancellation Abstract Scoring Template
- Spatial Span Board
- #2 Pencil without eraser

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<td>0158008413</td>
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Q-global scoring and reporting for the WISC-V Integrated - Coming Soon!