

Using a Team Approach When Evaluating Students with the Woodcock Johnson IV Braille Adaptation

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"Tests do not think for themselves, nor do they directly communicate with patients. Like a stethoscope, a blood pressure gauge, or an MRI scan, a psychological test is a dumb tool, and the worth of the tool cannot be separated from the sophistication of the clinician who draws inferences from it and then communicates with patients and professionals." Meyer et al., 2001, p. 153

Rationale for a Braille Version of the WJ IV

- Provide measures to assess the cognitive and oral language abilities, and academic achievement of people who are blind;
- Provide one standard edition of the test, allowing comparison of scores with sighted and blind individuals, nationwide;
- Use a well-respected and widely used battery with strong psychometric properties;
- Provide an adaptation that retains the evaluative intent of each item, test, and cluster;
- Provide the tests, as much as possible, in accepted braille test formats.

Woodcock Johnson IV: Braille Test Batteries

- Tests of Cognitive Abilities
- Tests of Oral Language
- Tests of Achievement

Cognitive Battery (9 Tests)

- Assess performance on tasks requiring specific cognitive abilities, such as short-term memory, working memory, logical reasoning, and general knowledge.
- Assess abilities necessary for school, work, and tasks of everyday living.
- Evaluators encouraged to interpret results based on qualitative analysis of responses as well as scores, keeping in mind that the scores reflect a comparison with sighted individuals.

Cognitive Clusters and Tests

Clusters	Tests
Comprehension knowledge	Oral vocabulary + general knowledge
Short-term working memory	Visual attention + numbers reversed
Short-term working memory extended	Verbal attention + numbers reversed + object-number sequencing
Auditory processing	Non-word repetition + phonological processing
Auditory memory span	Memory for words + sequence repetition (OL)
Numerical reasoning	Number series + number matrices

"IQ" Scores Omitted

- The 3 WJ IV intellectual ability composites contain tests that cannot be adapted for blind individuals.
- None of the constituent tasks were designed for blind individuals; for example, they do not assess learning through tactile means.
- Within the population of people who are blind, it is not possible to establish "average" levels of cognitive abilities.
- Research indicates that the developmental pattern of people who are blind from birth is different from that of sighted people.

Oral Language Clusters and Tests

Clusters	Tests
Oral language comprehension	Oral comprehension + story recall
Broad oral language-braille	Oral comprehension + sentence repetition + story recall + oral vocabulary
Phonetic coding	Segmentation + sound blending
Auditory memory span	Memory for words (COG) + sequence repetition
Not included in clusters	Retrieval fluency + comprehension oral

Achievement Battery (15 tests)

- Reading: basic reading skills, comprehension, speed
- Writing: spelling, editing
- Math: math facts, computation, math application
- Social Studies

Achievement Clusters and Tests

Reading

Clusters	Tasks
Reading	Letter word identification, passage comprehension
Basic reading skills	Letter-Word Identification, Word Attack
Reading comprehension	Passage Comprehension, Reading Recall
Reading fluency	Oral Reading, Sentence Reading Fluency

Math

Clusters	Tasks
Mathematics	Calculation, Applied Problems
Math calculation skills	Calculation, Math Facts Fluency
Math problem solving	Applied Problems, Number Matrices

Writing

Clusters	Tasks
Basic writing skills	Spelling, Editing

Cross-domain

Clusters	Tasks
Academic skills	Letter-Word Identification, Calculation, Spelling
Phoneme grapheme knowledge	Word Attack, Spelling of Sounds

Academic Knowledge

Clusters	Tasks
No cluster	Social studies

Assessment Purposes

- Provide a sampling of skills and abilities for information regarding an individual's present functioning in cognitive, oral language, or academic areas.
- Help to identify the nature of specific cognitive, oral language, or academic weaknesses or strengths.
- Provide a baseline against which to measure progress.
- Provide for educational and vocational planning, including intervention, modifications, and accommodations for low skills and abilities; or enriched education for particular strengths.

Key Principles in Adapting A Standardized Test for Braille Readers

1. Test integrity: Retain assessment intent and task demands of each item and test.
2. Replicate standardized administration procedures.
3. Decisions re: braille format.
4. Produce scores with a consistent value across all test subjects.
5. Team administration and interpretation.

Principle 1: Test Integrity—Retain Assessment Intent and Task Demands of Each Item and Test

- a) What skill or knowledge is this item intended to assess?
- b) Does the item contain any elements that appear extraneous but are intended to be identified?
- c) Does the item contain elements that are unrelated to the task & that present an unfair complication?
- d) Would an adaptation change task demands, thereby requiring a different or more advanced skill, knowledge, or cognitive ability?
- e) What foundational skills, knowledge, or experience does the performance of the task assume?

Principle 1: Test Integrity

- a) What specific skills is this math problem intended to assess?
- b) Does the item contain any information that appear extraneous but are intended to be identified?
 - a. Applied problems: Bill has 23 plants in his garden. Mary has 15 plants in her garden, and Donna’s garden has 20 plants. How many more plants are in Bill’s garden than in Donna’s garden?
- c) Does the item contain elements that are unrelated to the task and that present an unfair complication?
 - a. Applied problems: How many dogs are there?
 - b. Adapted item: How many triangles are there?
 - c. Adapt confusing spatial layout. Attributes to retain: Object categories, number, color (shading), size, placement
- d) Would an adaptation change task demands, thereby requiring a different or more advanced skills, knowledge, or cognitive ability?
 - a. Passage Comprehension, original item: Something is in the wagon. It is a _____. Adaptation: What if we just omitted the picture?
 - b. Passage Comprehension, adaptation: Use tangible objects. Something is in the chair. It is a _____.
- e) What foundational skills, knowledge, or experience does the performance of these tasks assume?

- a. Word attack: "Read these words."
- b. Original: tiff, Adapted: hap
- c. Original: zoop, Adapted: mell
- d. Story recall: "I'm going to tell you a story. When I finish, you tell the story back to me."

Principle 2: Replicate Standardized Administration Procedures

Test: Letter-word identification; words written in uncontracted braille and contracted braille

Principle 3: Device on Braille Format

- Braille
 - Unified English Braille (UEB)
 - Decide on UEB math/science or Nemeth Code
 - Uncontracted or contracted braille
- Consider
 - Educational institutions vary in how and when contractions are taught.
 - Individuals vary in their level of knowledge of contractions.
- Solution
 - Check the appendix of the manual for the list of items and contractions. The entire battery must be given in the same format.

Principle 2: Replicate Standardized Administration Procedures

- Issue with writing fluency and word reading fluency: Requires student to look at picture and read 3 words, followed by writing a sentence using the 3 word. Student scored on speed of writing within time limit.
- Solution: Tests of speed that require a written response were deleted from the battery.
- Original: If the answer is yes, circle the "Y"; if the answer is no, circle the "N".
- Adapted: If the answer is yes, say "Yes". If the answer is no, say "No".

Principle 4: Adhere to BANA Guidelines

- Exceptions: Math fluency—spatial layout has changed
- Adaptions Require Making the Item Accessible without Changing the Critical Attributes
 - Use braille instead of print.
 - For pictures: Use tactile graphics or tangible objects
 - Substitute an item of the same difficulty level from Form B or C.
 - Make written answers verbal.
 - Delete the item (Passage Comprehension: Items 1-11)

- Delete the test.
- Create new clusters.

Principle 4: Produce Scores with a Consistent Value Across all Test Subject

- Norms: The WJ IV Braille was not standardized on people who are blind. The scores derived from administering the WJ IV Braille Adaptation inform the examiner as to how a blind individual performs compared with sighted age- or grade-peers on tests that were designed for sighted people.
- A norming sample of individuals who are blind would not only be extremely difficult to obtain (especially a sufficiently large sample without concomitant disabilities) but would lack usefulness for making educational decisions.
- Produced through the auspices of Houghton Mifflin Harcourt Publishing.
- Created by the same team that developed the original WJ IV scoring program.
- Based on WJ IV norms
- Developed specifically for the WJ IV: Braille
- Factors in the item deletions, substitutions, and new compositions of clusters.

Principle 5: Team Administration and Interpretation

- Examiner Competencies include:
 - Fluency in reading and writing Unified English Braille (UEB) and Nemeth Code;
 - Knowledge of the subject's approximate level of knowledge of braille and Nemeth;
 - Familiarity with the educational and medical history, and life experience of the subject;
 - Knowledge about the effects of vision loss on the learning and functioning of people who are blind.
 - Consequently, valid administration and interpretation requires a team approach.
- Primary Examiner Qualification
 - Qualified and competent in administering WJ IV to sighted individuals and in interpreting test results.
 - Specific Examiner qualifications informed by *Standards for Educational and Psychological Testing* (2014).
 - Training in administering and interpreting the WJ IV Braille Adaptation to a person who is blind.
- Roles of the Primary Examiner
 - Reads instructions and items to subject

- Marks responses and notes incorrect oral responses verbatim
- Notes verbal & non-verbal behaviors that might bear on interpretation
- Manages the audio recordings
- Monitors the time on time-limited tests
- Notes when the subject's affect indicates need for a break or stopping point
- Notes when the subject's affect indicates need for a break or stopping point
- Figures raw scores, decides the types of scores needed, and works with scoring software
- Interprets the scores and error patterns with consideration of the subject's behaviors during testing and information provided by the ancillary examiner.
- Determines needed educational accommodations and interventions in collaboration with the ancillary examiner.
- Orientation
- Permission to Touch
- Roles of the Ancillary Examiner: Administration
 - Orients the subject to the testing area and equipment
 - Positions equipment as necessary
 - Makes sure that the subject's hands are in the correct place when reading or finding a specific item
 - Signals to the primary examiner whether a written response is correct or incorrect
 - Handles page changes during time-limited tests
 - Covers items on a page if a subject is confused by the presence of multiple braille and Nemeth or UEB math/science items
 - Provides a written translation of the subject's responses in braille and Nemeth or UEB math/science items.
- Roles of Ancillary Examiner: Interpretation
 - Helps ascertain patterns of errors in academic skills that are specific to braille and Nemeth or UEB math/science.
 - Helps distinguish between a learning difficulty versus gaps in knowledge typical of blind individuals or delayed training in braille and Nemeth or UEB math/science.
 - Provides information that may add to or alter the interpretation of a score.
 - Collaborates with primary examiner on determining educational accommodations and interventions
- Key Points to Consider in Interpreting Test Results

- Limited access to incidental learning leads to limited prior knowledge.
- Limited access to visual experience may lead to a more limited knowledge of vocabulary.
- Limited access to both affects depth of concept knowledge.
- This type of test does not assess a major mode of learning for people who are blind – haptic.
- This is not a lack of intelligence. It is a lack of access.
- Read the Manual
 - It is a supplement, not a substitute for the original WJ IV examiners' manuals
- Manual Contains Essential Information
 - Organization of tests and clusters
 - Modified administration instructions
 - Rationale for adaptations and omissions
 - Materials to be supplied by the examiner
 - Cautions and suggestions for interpretation
 - Setting up the test environment
 - Responsibilities of the primary and ancillary examiners
 - Reasons for a team approach to testing and interpretation
- Remember
 - Assessment is helpful only if it done with the appropriate instruments, administered correctly, interpreted with knowledge, and leads to appropriate recommendations.