

Woodcock-Johnson ECAD®

Test and Score Information

ASSESSMENT OF COGNITIVE FUNCTIONS

With the ECAD®, the examiner has access to seven tests which contribute to an overall General Intellectual Ability (GIA) composite. These tests span a breadth of cognitive functions including long-term memory and retrieval, auditory processing, comprehension-knowledge, visual processing, short-term working memory, and processing speed. All descriptions of the ECAD® tests and scores were culled from the Examiner's Manual (Wendling et al., 2015)¹.

- **Memory for Names** is a controlled-learning auditory-visual association task. The examinee is shown visual stimuli paired with names. The examinee is then shown a page containing the target stimuli amongst a set of distractors. The examinee must correctly identify the stimuli that was introduced, in addition to any other stimuli previously noted. The examinee is only required to point to the stimuli, and the examiner provides immediate correction of the examinee's errors.
- **Sound Blending** assesses phonetic coding, which falls within the domain of auditory processing. It requires the examinee to listen to a word pronounced syllable-by-syllable, or phoneme-by-phoneme, and then combine the parts together to say the target word.
- **Picture Vocabulary** is a comprehension-knowledge task demanding oral language development and word knowledge. The examinee is asked to identify pictured objects, generally at the single-word level. As the items become more challenging, the depictions become less common.
- **Verbal Analogies** tests comprehension-knowledge and fluid reasoning. Items on this test assess whether an examinee understands and can complete logical word relationships. The examinee first must identify the association between the target words, and then must recall an appropriate word for their response.
- **Visual Closure** measures closure ability, an aspect of visual processing. The examinee must verbally identify a drawing that has been altered (e.g., missing lines or a overlaid pattern).
- **Sentence Repetition** tests short-term working memory, requiring the examinee to remember and then restate individual words, phrases, and sentences. Memory strategy usage can be analyzed during this task, as the examinee can use sentence meaning to support their recall.
- **Rapid Picture Naming** is a speeded task which taps processing speed, speed of lexical access, and naming facility. The examinee is asked to quickly name a series of simple pictures under timed conditions.

¹ Wendling, B.J., Mather, N., LaForte, E.M., McGrew, K.S., & Schrank, F.A. (2015). Comprehensive Manual. Woodcock-Johnson IV Tests of Early Cognitive and Academic Development. Rolling Meadows, IL: Riverside Publishing

ASSESSMENT OF EARLY ACADEMIC SKILLS

The ECAD® also yields an Early Academic Skills Composite, which is comprised of measures assessing foundational reading, writing, and mathematics skills. These include print awareness and letter-word identification, number sense, and pre-writing and spelling.

- **Letter Word Identification** tests the broad ability of reading-writing. This task initially requires the examinee to identify letters amongst distractors. As the difficulty increases, the examinee is asked to name individual letters, and then later, individual words.
- **Number Sense** taps an examinee's quantitative knowledge. Items on this task assess whether the examinee comprehends how numbers relate to other numbers, in addition to the vocabulary and concepts needed to compare, judge, and estimate.
- **Writing** falls within the domain of reading-writing ability, assessing both pre-writing skills (i.e., drawing lines and tracing letters), in addition to more formal writing skills (i.e., producing uppercase and lowercase letters and individual words)

ASSESSMENT OF EXPRESSIVE LANGUAGE

Expressive Language functioning is measured using Picture Vocabulary and Sentence Repetition, two tests also needed to derive the GIA (noted above). These tests measure oral language development and word knowledge, in addition to auditory memory span and listening ability.



SCORES UNIQUE TO THE ECAD®

- Developmental Zone:** In addition to the more common scores available for reporting (e.g., percentile rank, standard scores), the ECAD® has a Developmental Zone, which is a unique application of the Relative Proficiency Index (RPI). The Developmental Zone identifies where along a developmental scale an examinee’s present level of functioning falls. The levels of development range from *Very Advanced to Extremely Delayed* and correspond to the RPI qualitative descriptors ranging from *Extremely Easy to Nearly Impossible*.
- Months Delay:** The ECAD® also allows for practitioners to assess the *Months Delay* based on a calculation of an examinee’s age-equivalent score (in months) minus their chronological age (in months). In some jurisdictions and agencies, the difference between an examinee’s observed performance and chronological age is needed for reporting and eligibility purposes.
- Percentage Delay:** Some agencies and jurisdictions require a *Percentage Delay* to determine the presence of a developmental delay. A Percentage Delay score can also be derived using the ECAD®. After obtaining the age-equivalent scores, the practitioner would engage in the following calculation to yield the Percentage Delay Score:

$$\frac{\text{Age (in months)} - \text{AE Score (in months)}}{\text{Age (in months)}} \times 100$$

- Standard Deviation Delay:** With the ECAD®, the practitioner can also derive a *Standard Deviation (SD) Delay* score for reporting and eligibility purposes. Depending on the jurisdiction or agency, specific levels of SD Delay may be required. SD Delay is measured in z-scores, with negative z-scores signaling performance below average levels when compared to same-age peers in the norming sample. For instance, a z-score of -1.5 would denote a score that is 1.5 SD’s below the mean score of an examinee’s peers in the norming sample.