Computer Based Assessment System for Reading (CBAS-R) 1.0:
Hierarchy and Item Development for Decoding and Fluency

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Abstract
The purpose of this report is to define the domain of Decoding and Fluency and illustrate how this domain is assessed. Decoding ability is developed through a progression of strategies, of which the goal is to develop automaticity and ease in word recognition (Hiebert & Taylor, 2000). Fluency is defined as the quick and accurate production of text and it is measured through three necessary components: rate, accuracy, and expression (NRP, 2001). Fluent reading and accurate decoding are essential to normal reading and comprehension development. Although Decoding and Fluency are not explicitly assessed by CBAS-R, they are critical to the study of reading.

Keywords: decoding, fluency, CBAS-R
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Decoding

“Decoding ability is developed through a progression of strategies, sequential in nature: acquiring letter-sound knowledge, engaging in sequential decoding, decoding by recognizing word patterns, developing word accuracy in word recognition, and developing automaticity and fluency in word recognition” (Hiebert & Taylor, 2000, p. 467). When a child has a large and established visual lexicon of words in combination with effective strategies to decode unfamiliar words, he/she can read fluently—smoothly, quickly, and more efficiently (Adams, 1990; Snow et al., 1998). The reader can also focus his/her attention on monitoring comprehension: “If there are too many unknown words in the passage that require the child to apply more analytic (phonemic decoding) or guessing strategies to fill in the blanks, fluency will be impaired” (Phillips & Torgesen, 2006, p. 105). According to RAND, “readers with a slow or an inadequate mastery of word decoding may attempt to compensate by relying on meaning and context to drive comprehension, but at the cost of glossing over important details in the text” (2002, p. 104). Decoding is often linked with phonics with the emphasis on letter-sound knowledge. Vocabulary contains common characteristics with decoding such as recognizing word patterns as in prefixes and suffixes.

Sample Assessments

Decoding skills are often assessed with blending, segmenting, and nonsense word decoding tasks.
Fluency

Fluency is the skill of reading printed text accurately and quickly. Fluency “reflects the ability to decode without effort, to read aloud smoothly with expression that indicates the text’s prosodic features (i.e., appropriate pacing and phrasing), and to comprehend easily what is read” (RAND, 2002, p. 104). “Fluent readers can read text with speed, accuracy, and proper expression. Fluency depends upon well developed word recognition skills, but such skills do not inevitably lead to fluency” (NRP, p. 3-1). This phase of reading development begins as students start to read independently, which might begin as early as late as kindergarten and extending into the early grade school years, but in normal readers, it is usually present by third grade (Chall, 1996). Fluent reading is context specific. There are numerous studies that support the link between oral reading fluency and comprehension (e.g., Good, Simmons, & Kame’enui, 2001; Fuchs, Fuchs, Hosp, & Jenkins, 2001; LaBerge & Samuels, 1974). Theoretically, fluency enables comprehension because cognitive resources can be allocated to derive meaning rather than decode text. However, readers will slow-down when text is more difficult, and speed-up when text is less difficult to decode and comprehend. Automaticity is a subset of fluency. Automaticity refers to the ability to recognize words instantly without much effort. A fluent reader is able to read with speed, accuracy, and proper expression or prosody.

Sample Assessments

Fluency is often assessed with tasks such as curriculum based measurement of oral reading fluency (CBM-R) where the words read correctly per minute (WRCM) and error per minute (EPM) are calculated.
Procedure

Hierarchical Structure

The contents of this section provide an overview of the a priori hierarchical structure for item and CAT development. This structure will be evaluated and updated as the items are developed and field tested.

Decoding and Fluency Item Categories

A. Category 1: Sight Word Recognition
   1. Subcategory 1: Identifies Sight Words in Isolation
   2. Subcategory 2: Identifies Sight Words in the Context of a Sentence
   3. Subcategory 3: Identifies Sight Words Quickly

B. Category 3: Context Clues
   1. Subcategory 1: Uses Semantic Clues to Decode Words
   2. Subcategory 2: Uses Syntactic Clues to Decode Words

C. Category 4: Base Words/Root Words
   1. Subcategory 1: Identifies Base Words/Root Words in Words

D. Category 5: Compound Words
   1. Subcategory 1: Identifies Compound Words

E. Category 6: Inflectional Endings
   1. Subcategory 1: Identifies Inflectional Endings

F. Category 7: Contractions
   1. Subcategory 1: Identifies Contractions
   2. Subcategory 2: Creates Contractions

G. Category 8: Reading Speed
H. Category 12: Reading Phrasing
I. Category 13: Reading Accuracy
J. Category 14: Reading Punctuation
References
**Additional references used to determine categories for the Domain


