Note. This article was not originally part of the Society for Research in Child Development symposium coordinated by Drs. Wolf and Bowers. However, due to the unique contribution of this article to the topic, Dr. Wolf and past editor Dr. Hynd agreed to have it included as part of this special issue.

A Clinical Rationale for Assessing Rapid Automatized Naming in Children with Language Disorders

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Abstract

Three continuous rapid naming tasks (Semel, Wiig, & Secord, 1995) were administered to 2,450 American, English-speaking, academically achieving individuals with typical language development and intellectual ability (ages 6 to 21 years) and 136 individuals with primary language disorders (LD; ages 6, 7, 9, 11, 12, 15–16). Naming time in seconds differed significantly ($p < .01$) between the groups for color naming (Task 1) at age 12, shape naming (Task 2) at age 6, and color–shape naming (Task 3) at ages 6, 7, 9, and 12. Naming accuracy did not differ significantly ($p > .01$) between groups at the majority of the age levels compared. In the normative group, naming speed increased with age in a monotonic progression. The developmental trajectory in the LD group was essentially parallel, but elevated. The percentages of individuals who failed the naming-time criteria for Task 3 (color–shape naming) differed significantly in the two groups at all ages compared ($p < .05$). These findings indicate that the requirements for two-dimensional, continuous naming (Task 3 color–shape naming) resulted in reduced naming speed (longer total times) and interference with fluency in language production in about half of the clinical sample.

The purposes of this article are to present developmental patterns for three continuous rapid naming tasks (Semel, Wiig, & Secord, 1995), to discuss their uses as clinical tools, and to give meaning to the use of criterion-referenced rapid naming tasks in clinical and educational practice. A rationale is given for including one or more continuous, rapid automatized naming (RAN) tasks in the battery of diagnostic language tests administered by speech–language pathologists and psychoeducational specialists in schools.

Continuous rapid naming of familiar competing stimuli has been shown to provide a clinical tool for probing brain mechanisms that underlie fluency in language production (Aine & Harter, 1984a, 1984b; Posner, Walker, Friedrich, & Rafał, 1984; Stroop, 1935; Wolf & Segal, 1992). Failure to meet criteria for naming speed, measured either by the total time needed to complete a given naming task or by response latency for single items, is interpreted to reflect a lack of fluency or automaticity caused by interference and subtle dyslexia (Denckla & Rudel, 1976; Kinsbourne, Rufo, Gamzu, Palmer, & Berliner, 1991). Naming-speed deficits can be observed when a continuous naming task requires an individual to shift between perceptual fields, as in accessing color words (e.g., red) from lexical memory and inhibiting responses to nonmatching colors used in printing the color words (e.g., blue; Stroop, 1935). Deficits are also observed when the naming tasks require accessing words from different semantic fields, as in naming stimuli from two different semantic categories in lexical memory, such as alternating printed letters and numbers (Wolf, 1986, 1991) or repeated combinations of colors and shapes (Wiig, 1969).

There is extensive evidence from studies of children and adolescents with dyslexia that naming-speed deficits can be observed with a variety of single and multidimensional stimuli presented for continuous naming (Denckla & Rudel, 1976; Fawcett & Nicolson, 1994; Wolf, 1986; Wolf & Obregón, 1992). Rapid automatized naming differentiates children with dyslexia from children with other forms of learning disabilities (Denckla & Rudel, 1976), and naming deficits associated with dyslexia persist into adolescence and adulthood (Denckla & Rudel, 1976; Ko-