Rapid Automatized Naming (RAN) Task (pp 177-178)

A simple task on which dyslexics typically perform more poorly than nondyslexics. Sometimes used as a screening task, to identify young children at risk for dyslexia. Researchers are interested in what performance on the task indicates about the causes of dyslexia. It was developed by neuropsychologists Martha Denckla & Rita Rudel in the 1970s and greatly extended by Maryanne Wolf.

RAN is an important measure but only briefly described in the book. Here are examples that illustrate how the task actually works and why it is interesting.
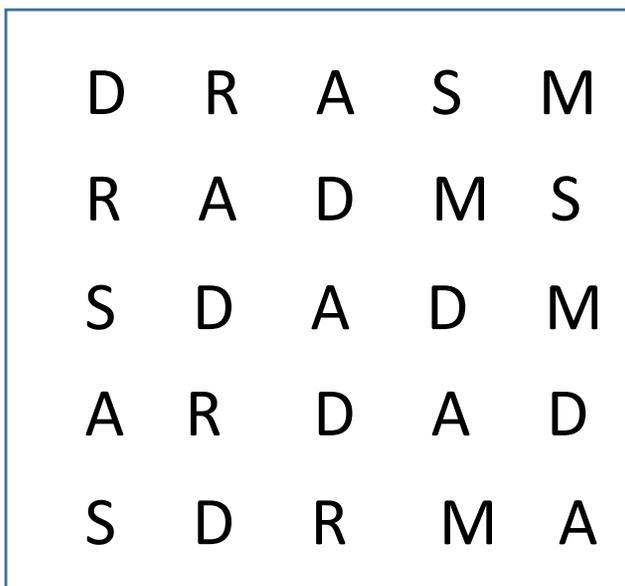
The child sees a display with a large number of patterns (or "stimuli") on it. The stimuli can be colored squares, familiar objects, letters, or numerals. As in the examples below, the items are repeated in random order.

The actual test materials include many more lines of stimuli than shown.

Color version

Letter version

D	R	A	S	M
R	A	D	M	S
S	D	A	D	M
A	R	D	A	D
S	D	R	M	A
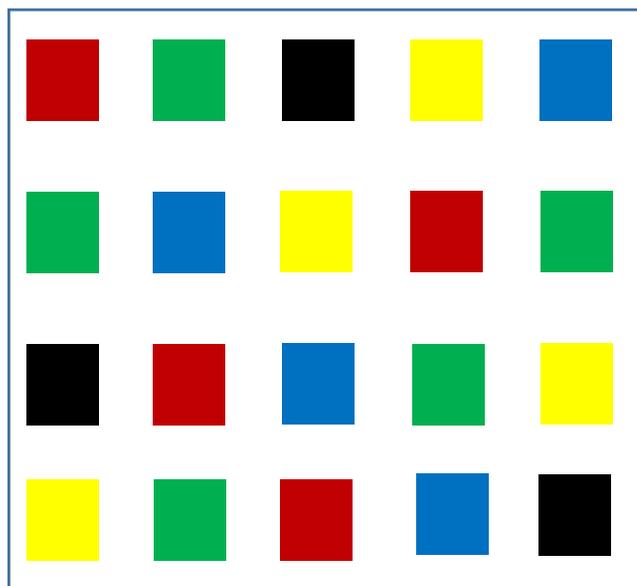
Object version

The child is asked to name as many of the stimuli as they can within a certain amount of time, usually 20 seconds.

In the color version, they say the color of each square; in the letter, number, and picture versions, they say the names of the items (e.g., book, cup, apple, stool, apple ….).

The number of correctly named items is the main measure of interest.

The items are meant to be ones that children can easily recognize and name: familiar colors, objects, letters. The task isn't about visual perception or vocabulary; it is about how rapidly children can produce the names.

Dyslexics name these kinds of familiar items more slowly, but why? The task requires identifying an item, saying its name, and moving on to the next item. Poorer performance could be due to

• impaired perception of the stimulus itself (might be true for letters because they are poor readers; doesn't explain slower naming of colors, objects)
• a weaker association between the item and its name
• an attentional problem that interferes with scanning and naming the items in succession
• interference from previously-named items
• a problem somewhere in the generation of the spoken response

Identifying the underlying causes of poor performance on the task has been the focus of a lot of research and controversy.

The Wikipedia article is a good basic overview.
A more technical review is downloadable here.