Rapid Automatized Naming and Rapid Alternating Stimulus assessments (RAN/RAS)

APS Annual Dyslexia Conference: Saturday, October 13, 2018
Presented by: Jennifer Brown
Who are we?

Let’s get to know the group. At your turn, say:

a) Your name
b) Your connection to APS
c) One thing you’ve learned or found interesting from a previous session
d) What you hope to get out of this session
Grounding:
Can you read and comprehend this paragraph in 60 seconds?

"Moud a text-ouly sight bee ideale for soweoue mith a reabing bisorber? Harblee. Iwages are uot dab for accessabilledea. They actualy iucreese cowqreheusiou aub nsadilite for wost anbieuces.

Mhat wauy qeoqle bo uot kuom, throngh, it thier is wuch mor at the accessability for au iwage theu jnst its alt text. Sowe qeople mrougly assnwe that iwages are dab for accessedilite, siuce alt text essenually reqlaces the iwage mith a text-ouly versiou of that iwage."

bye Paml Bohwau
The Unmodified Paragraph

"Would a text-only site be ideal for someone with a reading disorder? Hardly. Images are not bad for accessibility. They actually increase comprehension and usability for most audiences.

What many people do not know, though, is there is much more to the accessibility of an image than just its alt text. Some people wrongly assume that images are bad for accessibility, since alt text essentially replaces the image with a text-only version of that image."

by Paul Bohman
What is Naming Speed?

“Both naming and reading are conceptualized as large systems with multiple and overlapping perceptual, cognitive, linguistic and motoric processes” (Wolf & Denckla, 2005)

The range of processes involved in serial visual naming includes:

1. Attentional processes to stimulus
2. Bihemispheric visual processes: initial feature detection, visual discrimination, and pattern identification
3. Integration of visual features and pattern information with knowledge of spelling patterns
4. Integration of visual and spelling pattern with knowledge of letter/pattern sound
5. Access and retrieval of phonological knowledge
6. Activating semantics and conceptual knowledge
7. Speech and articulation
Naming Speed and Reading

- Components of naming speed = processes found in reading
- Smooth and rapid naming speed = fluency
  - Fluency is essential for comprehension
- Naming speed of letters represents early approximation of reading speed for words
- Naming speed develops before reading is taught
  - Provides early window into visual/verbal processing
History of Naming Speed Research

Rooted in psychology, neurology, speech pathology, reading research and education.

- “It takes time to see and name objects” (Cattell, 1886)
- Stroop Color-Word Test (Stroop, 1935)
- Word retrieval is sensitive to any underlying disruption in language (aphasia) (Goodglass, 1980; Goodglass & Kaplan, 1972)
- Best predictor of later reading is a child’s early color naming (Geschwind, 1965)
- Denckla & Rudel (1974, 1976 a, 1976b) and Spring & Capps (1974) found the timed performance on RAN tasks differentiated children with severe reading disabilities
- Wolf (1986) introduced alternating stimulus sets (RAS tasks) to increase requirements for attention

Over past 3 decades particularly, research has documented presence of naming speed deficits in most children with reading disabilities.
Jigsaw: Rapid Naming in Testing and Evaluation

1. **Read** your assigned section(s)
2. **Teach** your group by reviewing key points
3. **Discuss** how and why Rapid Naming fits in with the testing and evaluation of dyslexia and other reading difficulties.

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**JUST THE FACTS...** Information provided by The International Dyslexia Association

**TESTING AND EVALUATION**

When a skill is struggling to read, someone will probably suggest that the child be tested for dyslexia. What does it mean to be tested? You might think of a test as something you take in an afternoon. Someone scores it and tells you what you did. Evaluation is a more active word to describe the process of determining, if someone has dyslexia. The word evaluation encompasses identification, assessing, testing, diagnosis, and all the other information gathering that occurs when the student, his or her family, and a team of professionals work together to determine why the student is having difficulty and what can be done to help.

**Why is evaluation important?**

An evaluation is the process of gathering information to identify the factors contributing to a student’s difficulty with learning to read and spell. First, information is gathered from parents and teachers to understand the student’s development and the educational opportunities that have been provided. Then, tests are given to identify strengths and weaknesses that lead to a diagnosis and a tentative roadmap for intervention. Conclusions and recommendations are developed and reported.

When a student is having difficulties with reading and spelling, evaluation is necessary: (1) to diagnose; (2) to assess; (3) to recommend; and (4) to plan.

1. **Diagnose**: An affective evaluation identifies the likely causes of the problem. It takes into account other common causes of reading difficulties and “strengths and weaknesses in the student profile of strengths and weaknesses in the definition of dyslexia.”
2. **Intervention planning**: An effective evaluation defines a focused remedial program. Students who have a specific learning disability in reading (e.g., dyslexia) need a special approach to reading instruction to meet their needs. It is crucial that the specialized intervention be at the student’s current level of reading skill development, rather than at the student’s grade level. An effective evaluation helps parents and teachers see which specific skills are weak and where reading and spelling instruction should begin.

**Where should a child be evaluated?**

It is crucial to identify potential reading problems in young children even before they become a reading problem. Screening tests, such as the Peabody’s Reading Test, are used in kindergarten, grade one, and grade two. These tests help determine if further assessment is needed to identify students who are at risk for reading difficulties. Preventive intervention should begin immediately, even if dyslexia is suspected. How the child responds to appropriate instruction will help determine if special education services are justified and necessary.

Dollar saved, it is more important to focus on evaluation rather than testing.
Rapid Naming Screening in Virginia

- In 1997, Virginia required early screening for reading difficulties.
- In 2010, the Virginia General Assembly passed Senate Joint Resolution 87 Requesting VDOE to study dyslexia screening for kindergartners.
- Recent legislation was brought forward mandating all schools in VA to implement a Rapid Naming components part of a literacy screening.
  - It was not voted on to go forward.
  - APS anticipates such legislation will continue to be brought forward.
APS Pilot of RAN/RAS

Research indicates that both phonemic awareness and rapid naming are the two earliest predictors of reading success.

- Current Phonological Awareness Literacy Screening (PALS) of all K-5 Students
- Dr. Sandman-Hurley, APS’ Dyslexia Consultant, recommended adding Rapid Naming component to supplement
  - 2018-2019 Pilot to determine if it aids in identifying students who may need support
    - Fall screening of all grade 1 students
    - 9 elementary schools
  - APS will review data and information after pilot
PALS and RAN/RAS

Students who struggle with both fluency/automaticity and phonemic awareness may have a harder time improving reading compared to students who only struggle with phonemes.

- Early identification of children who are at risk for reading difficulties
- Ongoing assessment of processes underlying naming speed and fluency
- Support students and families in addressing fluency concerns
Test Administration

- 1 on 1
- 10-12 minutes per student
- 6 Timed Subtests
  - **RAN**
    - Objects
    - Colors
    - Numbers
    - Letters
  - **RAS**
    - 2-Set (Letters & Numbers)
    - 3-Set (Letters, Numbers, & Colors)
Scoring

- Trained examiner completes record form during assessment
- Use age in years, months, and days
  - Ages 5-18
- Time (in seconds) to complete subtest
- Standard score based on age provides a descriptive rating
  - >130 Very Superior
  - 121-130 Superior
  - 111-120 Above Average
  - 90-110 Average
  - 80-89 Below Average
  - 70-79 Poor
  - <70 Very Poor
What to do with the scores?

- All scores are communicated at conferences
- Data to support PALS and reading behaviors of child
- Descriptive rating of Below Average, Poor, Very Poor on:
  - RAN: Numbers
  - RAN: Letters

*Fluent recognition of letters and numbers connects to fluency in reading*

- Target and support fluency in literacy and numeracy in school and at home
- Progress monitor
Questions?

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