

Reading, Word Retrieval, and Rapid Automatic Naming (RAN)

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This session will define RAN and provide an introduction to a specific teaching technique, use of a pencil tip and echo readings, for improving rapid naming skills using students who once exhibited moderate to severe processing speed deficits at the single syllable level.

Definition

Children who struggle with Rapid Automatic Naming exhibit "retrieval speed" challenges. They are slow to retrieve the names of letters, symbols and numbers. RAN is considered to be an integral part of reading and is highly correlated with successful reading. At the single and two syllable level, specific techniques and methods will be demonstrated that increase RAN for students that exhibit severe challenges, by students who were identified with significant processing speed deficits.

Predictor of Early Reading Performance

- Rapid automatized naming (RAN) measures act as a microcosm of the reading system, providing an index of one's abilities to integrate multiple neural processes.
- Dr. Maryann Wolf has provided in-depth research at Tufts University and has found Rapid Automatic Reading (RAN) tasks are the number one predictor of reading performance.

Predictor of Early Reading Performance

- RAN and phonological awareness are both robust early predictors of reading ability, and one or both are often impaired in people with dyslexia.
- Longitudinal, cross-linguistic, genetic, and neuroimaging studies suggest that these two crucial reading-related processes should be considered *distinct constructs* rather than subcomponents of a single construct. (Children with dyslexia can have problems with both phoneme-awareness tasks and rapid-naming tasks or with just one or the other task. These two core deficits have been referred to as Double Deficit Hypothesis.) Dr. Maryanne Wolf

- It is advantageous to conceptualize fluent reading as a complex ability that depends on automaticity across all levels of cognitive and linguistic processing that are involved in reading, allowing time and thought to be devoted to comprehension.

Rapid Automatized Naming (RAN) and Reading Fluency: Implications for Understanding and Treatment of Reading Disabilities Elizabeth S. Norton and Maryanne Wolf. (Annu.Rev.Psychol.2012.63:427-452.)

Assessing for Rapid Automatized Naming

CTOPP-2: Comprehensive Test of Phonological Processing - Second Edition.

(Rapid Digit Naming – measures the ability to rapidly name numbers, letters, colors, and objects).

RAN/RAS: Rapid Automatized Naming and Rapid Alternating Stimulus Tests (Maryanne Wolf and Martha Bridge Denckla).

The RAN and RAS are considered the “gold standard” of naming tests. They consist of rapid automatized naming tests – letters, numbers, colors, and objects.

Symptoms of RAN challenges

• *The following are symptoms of Rapid Automatized Naming difficulties children can exhibit. Children may display a few, several, or many of the following signs: (There can be several overlaps with phonological issues.)*

- Slow or inconsistent processing speed.
- Letter/word retrieval challenges.
- Little to no fluency or halting fluency.

Symptoms of RAN challenges

- Skips lines, phrases, or words; self corrects frequently.
- Inverts letters, or letters are taken out of sequence.
- Omits and/or inserts letters or words.
- Substitutions
- Sight Words – often unable to memorize.

Symptoms of RAN challenges

- Light Sensitivity
- Can display a discrepancy between reading isolated word lists and text.
- In addition, children can demonstrate weak orthographic processing skills, further jeopardized with phonological and prosody challenges.

Excerpt from a Summary Report

“When Sara began academic therapy she exhibited substantial rapid automatized naming and phonological challenges as evidenced by extreme difficulty with focusing on individual letters to blend and segment.

She read slowly, guessed at the pronunciation of words, reversed letters, self corrected several times and repeated words and phrases continuously. She did not recognize many common sight words.

In addition, she would pull letters from other words and insert or replace them into current words being read.

A fluency score could not be obtained to determine the amount of words she read in 1 minute due to impaired fluency.”

Use of Pencil Tip and Echo Readings for Tracking and RAN Activities:

- Adjust wrist on table – move from wrist (practice drawing straight line onto card).
- Wing in/placement of arm motion
- Adjust pencil grip for comfort/opposite hand on table
- Monitor wrist

Use of Pencil Tip and Echo Readings for Tracking and RAN Activities:

- Chair in/posture comfortable
- Shoulders relaxed
- Make corrections if children track text from their head rather than their eyes during reading.
- Use slant board when appropriate.

Additional Steps for Echo Reading

- Determine which word column, sentences, or 2-3 lines of text require an echo reading.
- Ask student to read through text using their pencil tip while providing echo readings.
 - Provide echo readings when fluency is lagging.
 - Sit directly across from student and track with them using a sharp pencil tip.
 - Provide 2-3 sets of timings encouraging student to reduce their score each time.

Additional Steps for Echo Reading

- **Begin Reading**
 - Don't start reading until ready.
 - Check pencil, wrist, and arm position and grip.
 - Don't read faster than you can.
 - Correct errors immediately. Sit across from student and follow along with their pencil tip with your own pencil. When an error is made tap the word. If student is unable to identify an error provide prompts: a. touch each letter; use sand tray; air write.

Instructional Strategies

- *Multi sensory instruction is critical.*
- *Use Direct, explicit and systematic units of instruction* where specific skills are sequenced from easy to difficult. Begin with phonetically controlled word lists that are presented to meet a child's skill needs. Eventually incorporate phonetically controlled sentences and text. Alternate nonsense words and silly sentences (Explode the Code has great silly sentences) for developing naming speed.

Instructional Strategies

- Include *Pencil tip* use at all times for tracking individual letters, blending and segmenting activities and during the development of rapid naming skills.
 - This maximizes visual tracking and discrimination of all letters and decreases miscues significantly.
- Teacher's role model and teach student to align their pencil tip with each individual letter, word, and ultimately, phrases and sentences. At some point most students begin to track with their eyes and the intense use of the tip can be decreased.

Instructional Strategies

- Consistent use of *Echo Readings* is critical for modeling fluency and speed. Students imitate the way the teacher reads the select word lists, sentences or short passages. Echo readings can also be used to model *prosody* – expression, intonation, and phrasing.
- At all times *reading errors* made must be corrected immediately as they occur.

Instructional Strategies

- *Orthographic processing* is the ability to recognize visually presented syllables and patterns in a rapid, holistic manner, without relying on phonology. Orthography is essential to word recognition, especially in advanced stages of reading acquisition, when the reading process is faster and relies on recognition of complete words without phonological decoding. Therefore, teach the 7 syllable types and 5 syllabication patterns. When students master quick and accurate recognition of the syllable types, they can decode longer words in a systematic manner.

Instructional Strategies

- Build *symbol imagery skills (Seeing Stars Program)* using air writing, pictures and sand try.
- *Manipulative Alphabet letters (can be color coded)* and alphabet board.
- *Fluency instruction must always be linked to MEANING*, because the whole purpose of reading is to comprehend.

Instructional Strategies

- *Printed Materials* – monitor font size; minimize the use of black ink on white paper – copy onto grey, blue or green paper. Colored overlays can be used to reduce light glare.
- *Incentives and Rewards* – while there are a variety of incentives available, using nickels with younger children help determine how far they can be pushed during rapid naming activities.

Instructional Strategies

- Parent Involvement when students participate in private academic therapy can speed up progress as students can continue rapid naming activities under the guidance of a parent or guardian at home.
- On-Going Assessment is critical for success!
