Educators as Physicians:
Using Data from Reading Assessments for Effective Professional Decision-Making

Presented by Jan Hasbrouck, Ph.D.

Topics

- Goals for students' reading.
- Response to Intervention: a working definition.
- Using data to make decisions about our students: Educators as Physicians!
- The RIGHT reading assessments for Screening, Diagnosis, Progress Monitoring: What, Why & How?
- Questions & Answers & Conversation.

Educators as Physicians:
Using RTI Data for Effective Decision-Making

Jan Hasbrouck, Ph.D.

Four Modules

- Framework for Intervention
- Benchmark/Screening
- Diagnosis
- Progress Monitoring

Summary booklets sold in sets of 4

Available online at www.gha-pd.com
Our DREAM...

My conclusions from reading research:

Compelling evidence from a convergence of reading research is indicating that 90% to 95% of all students can achieve literacy skills at or approaching grade level. These statistics include students with dyslexia and other learning disabilities. Students succeed when they receive intensive, comprehensive, and high-quality prevention and early intervention instruction, provided by well-informed and well-supported teachers. This instruction must be systematic, explicit, and intensive, designed to appropriately integrate elements of oral language development, phonemic awareness, phonics and decoding, fluency, vocabulary development, and reading comprehension skills and strategies.

Jan Hasbrouck, Ph.D.

Torgesen, 2007; Vellutino & Fletcher, 2007; Rashotte, MacPhee, Torgesen, 2001; Al Otailba, Connor, Foorman, Schatschneider, Graulich, Sidler, 2009; Every Child Reading: An Action Plan and Every Child Reading: A Professional Development Guide. Available online from Learning First Alliance

MORE Good News!

While there is a recognized optimal age for early reading intervention…

“it is never too late”

Shaywitz (2003) Overcoming Dyslexia
Old Response

- “Wait to fail”
- I.Q./achievement discrepancy
- Hope & pray??

Today we have better responses...

RESPONSE TO INTERVENTION RTI / MTSS

DEFINED:
A process where a student’s response to appropriate, high-quality, evidence-based instruction and intervention is documented across tiered levels of services.

PURPOSE OF RTI / MTSS?

GOAL K-3: Prevention!
To reduce the number of students with academic or behavior problems incorrectly designated as “disabled”

GOAL 4-12: Rescue!
To find EVERY student with academic or behavioral needs and provide appropriate intervention services
Educators as Physicians
Jan Hasbrouck, Ph.D.

RTI / MTSS

Tier I: Core Classroom Instruction
- ALL Students
- INCREASING Time & Intensity & Data Collection & Expertise

Tier II: Supplementary Instruction
- Approx. 20-30%

Tier III: Intensive Intervention
- Approximately 5-10%
- INCREASING Time & Intensity & Data Collection & Expertise

A Professional Parallel...

Tier I: Annual Check-up; Standard treatment; REGULAR physician Screening data
- INCREASING Time & Intensity & Data Collection & Expertise

Tier II: Strategic, Supplemental Care SPECIALIST working with regular physician Diagnostic data

Tier III: Intensive Care TEAM of doctors, nurses, technicians, etc. Monitoring data

RTI / MTSS CORE CONCEPTS

- Appropriate, high quality, evidence-based core instruction in general education classrooms to address standards and skills

- Appropriate assessments (screening, diagnosis, progress monitoring)

- IMMEDIATE and appropriate instructional response to assessment data

- Collaboration with home

www.ncld.org/publications
Parent Guide to RTI

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BIG IDEA of ALL ASSESSMENTS

All assessments are conducted to answer a QUESTION!

My Personal Philosophy of Assessment in School (4 Parts)

1. We are doing TOO MUCH assessing!
2. We MUST assess our students.
3. Let’s collect the RIGHT data, needed to answer IMPORTANT questions, as QUICKLY as possible.
4. If we spend resources collecting data, let’s USE it—correctly—to inform our decisions.

Educators as Physicians

- Benchmark/Screening
- Diagnostic
- Progress Monitoring
“So, how are you doing?”

Benchmark/Screening

“universal screening”

The Question?

Which of our students MIGHT need help with their reading?

Benchmark Screening

3x Year: Fall, Winter, Spring

Benchmark Screener

- Significantly Below Benchmark
- Slightly Below Benchmark
- At or Above Benchmark

May Need Extra Assistance

Likely On Track

Additional assessments or other information should also be considered…
Common Assessments for Benchmark Screening: ORF

DIBELS Dynamic Indicators of Basic Early Literacy Skills K-6

Reading Fluency Benchmark Assessor (RFBA)
   Read Naturally K-8

AIMSWeb Edformation K-8

EasyCBM Riverside K-8

All are versions of CBM-R
   ORF assessments

So, why is FLUENCY used as a benchmark indicator for reading proficiency?

Isn't COMPREHENSION so much more important?

Concerns about ORF for Benchmark/Screening

How can we rely on a very short measure of a single, isolated reading skill (fluency) to determine proficiency in the highly complex task of reading?
Concerns about ORF for Benchmark/Screening
How can we rely on a very short measure of a single, isolated reading skill (fluency) to determine proficiency in the highly complex task of reading?

Three Responses
#1: ORF is NOT a measure of the skill of reading fluency!!

Oral Reading Fluency Assessments DO NOT ASSESS Fluency!

Oral Reading Fluency assessments were MISNAMED!

More Accurate:
Performance measure of ACCURACY + RATE

Indicator of Reading Proficiency: IRP?
Reading fluency is a COMPLEX & MULTI-FACETED skill!

The COMPLEX SKILL of reading fluency cannot be measured by ORF alone!

DEFINING The SKILL of reading fluency
What is Reading Fluency?
Reasonably accurate reading at an appropriate rate with suitable prosody that leads to accurate and deep comprehension and motivation to read.

Hasbrouck & Glaser (2012)

What is Reading Fluency?
Reasonably ACCURATE?
Aim for at least ____ % accuracy
(Rasinski, Reutzel, Chard, Thompson, 2011)
Emerging readers: ____ %

What is Reading Fluency?
Appropriate RATE?
Fluent reading should sound like SPEECH
Stahl & Kuhn (2002)
What is Reading Fluency?
Appropriate RATE?

____ th %ile on oral reading fluency (ORF) norms on unpracticed, grade-level text

Oral Reading Fluency Norms for Grades 1-8

Hasbrouck & Tindal
ORF Norms: A Valuable Assessment Tool for Reading Teachers
The Reading Teacher (Spring 2006)

What is Reading Fluency?
Appropriate RATE?

# 1 LIMITED EVIDENCE from research or theory or practice that suggest a benefit of a reading rate significantly ABOVE the 50th%ile

# 2 SIGNIFICANT EVIDENCE that it is crucial to help students read with FLUENCY (not just rate!) at or near the 50th%ile to support comprehension and motivation
**WHAT IS Reading Fluency?**

*Reasonably accurate reading at an appropriate rate with suitable prosody* that leads to accurate and deep *comprehension* and *motivation* to read.  

**Components:** Accuracy, rate, & prosody  
**PLUS**  
**Mechanics:** Word decoding, text decoding, & comprehension

*A COMPLEX, MULTI-FACED SKILL!*

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**ORF assessments**

**DO NOT**

**ASSESS**

reading fluency!

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Concerns about ORF for **Benchmark/Screening**

How can we rely on a very short measure of a single, isolated reading skill (fluency) to determine proficiency in the highly complex task of reading?

**Three Responses**

#1: ORF is NOT a measure of the skill of reading fluency!!
Concerns about ORF for Benchmark/Screening

How can we rely on a very short measure of a single, isolated reading skill (fluency) to determine proficiency in the highly complex task of reading?

Three Responses

#2: CBM-R accuracy + rate measures (ORF) function like a thermometer…

QUICKLY provide information

- Reliable (accurate)
- Valid (relevant, useful, & important)
- Compared to benchmark…

FEVER FACTOIDS:

98.6 F or 37.0 C

1861 German physician Dr. Carl Reinhold August Wunderlich using a large sample of healthy individuals

1992 JAMA 98.2 F +/- 0.126 (98.1 F to 98.4 F “normal”)

BUT … body temperature only one single indicator of general health or illness:

Normal? 103 degrees?

CBM-R measures of accuracy + rate provide one reasonably dependable indicator of a student’s academic “health” or “illness”—NEVER a diagnosis for a treatment plan!
Concerns about ORF for Benchmark/Screening

How can we rely on a very short measure of a single, isolated reading skill (fluency) to determine proficiency in the highly complex task of reading?

Three Responses

#3: 30+ years of CBM research establishing reliability and validity

CBM-R ORF Scores Correlate with Reading Comprehension

Fuchs, Fuchs, Hosp, & Jenkins, SSR, 2001

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accuracy + rate measures predict TOTAL reading skill

How about renaming ORF?  
Indicator of Reading Proficiency IRP?
Statistical Terminology
- Obtained Score
- True Score
- Error (“noise”)
- Confidence intervals

Estimated SEM for ORF
Likely range of CBM-R SEM values is:

6 to 13 wcpm

If CORRECTLY ADMINISTERED SEM might approximate:

5 wcpm (Gr 1 & 2) to 9 wcpm (Gr 3-8+)

Christ & Coolong-Chaffin (2007)

Spring 2nd Grade 50th Percentile

89 wcpm

89 + 5 = 94

89 – 5 = 84
Spring 2nd Grade 50th Percentile

89 wcpm

GREEN ZONE | 94 wcpm or higher to 87 wcpm

YELLOW ZONE | 86 wcpm to 84 wcpm

RED ZONE | 83 wcpm or lower

Spring 4th Grade 50th Percentile

123 wcpm

123 + 10 = 133

123 – 10 = 113

Spring 4th Grade 50th Percentile

123 wcpm

GREEN ZONE | 133 wcpm or higher to 119 wcpm

YELLOW ZONE | 118 wcpm to 113 wcpm

RED ZONE | 112 wcpm or lower
Benchmark/Screening
EXAMPLE #1

3rd grader reading 3rd grade passages

FALL
78 WCPM

Benchmark/Screening
EXAMPLE #2

4th grader reading 4th grade passages

WINTER
104 WCPM

Benchmark/Screening for Henry & Lupita
Henry 7th grader

- Mid-November
- Home room teacher makes referral to reading specialist: low grades in most content classes + low test scores
- English/L.A. teacher concerned about general literacy skills

Diagnostic tests scheduled...

Lupita 3rd grader

- Universal fall screening:
  Reading Fluency
  Benchmark Assessor
- RFBA scores: 59, 65, 64
  Mean = 62.66 = 63 wcpm

  Compare to norms...

Lupita 3rd grader

- Universal fall screening
  RFBA scores: 59, 65, 64
  Mean: 63 wcpm
  YELLOW FLAG
- Lupita’s teacher also sees concerns in daily work and behaviors
- Discuss at assessment team meeting—further diagnosis
“Let’s see what’s going on…”

Diagnostic Assessments

Educators as Physicians

The Question?

What are this student’s skill strengths and needs?

DIAGNOSTIC ASSESSMENTS

Benchmark Screener

Significantly Below Benchmark

Slightly Below Benchmark

At or Above Benchmark

Consider diagnostic assessments

Collect additional information as necessary

Core + Intervention or Core Replacement Tier 2

Core + Supplementary Support Tier 2

Begin or Continue Core Instruction Tier 1
**NRP Instructional Components**
- Phonemic Awareness
  - Phonics
  - Fluency
  - Vocabulary
- Comprehension Strategies

National Reading Panel (2000)

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**CCSS Foundational Skills K-5**
- Print Concepts
- Phonological Awareness
- Phonics & Word Recognition
  - Fluency

National Governors' Association CCSS (2010)

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**Diagnosing Fluency**

You **MUST** listen to the student read aloud!

And not just for 60 seconds!
Diagnosing Fluency

- Assess prosody (subjective)
  - Assess sound or letter or word fluency (beginning readers)
  - Assess fluency in connected text

Diagnosing Prosody

NAEP Reading Fluency Scale

LEVEL 4: Expressive interpretation
LEVEL 3: 3-4 words phrased in groups
LEVEL 2: Awkward & unrelated groupings
LEVEL 1: Word-by-word

National Assessment of Educational Progress

What are the ACCURACY & RATE scores we should be looking for?
DIAGNOSIS EXAMPLE: FALL

4th grader: 4th grade passage

94% accuracy
5.5 / 7 comprehension
instructional level

IRP: 83 wcpm

DIAGNOSIS EXAMPLE: WINTER

6th grader: 5th grade passage

frustration level

Try 4th grade passage...

DIAGNOSIS EXAMPLE: WINTER

6th grader reading 4th grade passage

93% accuracy
6 / 8 comprehension

instructional level

IRP: 113 wcpm
Henry 7th grader

- Mid-November
- Home room teacher makes referral to reading specialist: low grades in most content classes + low test scores
- English/L.A. teacher concerned about general literacy skills

Diagnostic tests scheduled...

Henry 7th grader

IRI RESULTS

Gr 4 INDEPENDENT
98% correct
6 / 8 questions correct

Gr 5 INSTRUCTIONAL
93% correct
5.5 / 8 questions correct

113 wcpm

Henry 7th grader

IRI RESULTS

Gr 4 INDEPENDENT

Gr 5 INSTRUCTIONAL

Gr 6 FRUSTRATION

Administer QPS
Henry 7th grader

✓ Reading two years below level IRI
✓ Fluency is OK at 5th grade IRI
✓ Phonics
  Vowel digraphs & diphthongs; prefixes & suffixes; multisyllable words
QPS

Lupita 3rd grader

• Universal fall screening
  RFBA scores: 59, 65, 64
  Mean: 63 wcpm
YELLOW FLAG
• Lupita’s teacher also sees concerns in daily work and behaviors
• Assessment team: Further diagnosis
Lupita 3rd grader

IRI RESULTS

Gr 2 INDEPENDENT
96% correct
6.5 / 8 questions correct

Gr 3 INSTRUCTIONAL
91% correct
4.5 / 8 questions correct

62 wcpm

Lupita 3rd grader

IRI RESULTS

Gr 2 INDEPENDENT

Gr 3 INSTRUCTIONAL

Administer QPS

Skill Set 5:
CVCC & CCVC
A: 8/10 nonsense words
B: 9/10 words in context

Skill Set 6:
Silent e
SKIP
Skill Set 7:  
**R-Controlled Vowels**  
A: 7/10 nonsense words  
B: 8/10 words in context

Skill Set 8:  
**Advanced Consonants**  
A: 5/10 nonsense words  
B: 7/10 words in context

Skill Set 9:  
**Vowel Digraphs & Diphthongs**  
A: 5/10 nonsense words  
B: 7/10 words in context

Skill Set 10:  
**Prefixes & Suffixes**  
5/10

Skill Set 11:  
**Two Syllables**  
4/10 nonsense words

Skill Set 12:  
**Three Syllables**  
STOP

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**Lupita 3rd grader**

- Reading at grade level—barely; keep eye on comprehension  
- Fluency is a concern  
- Phonics: Prefixes & Suffixes; Multisyllable words  
- QPS
USE
Results to Plan Instruction!

- Examine assessment results: Skill STRENGTHS? Skill NEEDS?
- Appropriate SERVICE DELIVERY: Classroom only/Tier 1? Supplementary/Tier 2? Intervention/Tier 3?
- Select proven instructional tools MATCHED identified needs—Professional development & support concerns
- Plan for sufficient instructional TIME

Available for download at:
www.gha-pd.com/resources

Educators as Physicians

“This is what we’ve found…

…and here’s what we can do.”
Provide Effective INSTRUCTION!

- Systematic
- Explicit
- Active
- Intensive

EFFECTIVE INSTRUCTION

Systematic

SCOPE of skills & content
SEQUENCE easy-to-hard; separate confusions
Frequent REVIEWS
EFFECTIVE INSTRUCTION
Explicit

3 Steps in Instruction:
1. DEMONSTRATION: I do
2. GUIDED PRACTICE: We do
3. INDEPENDENT PRACTICE: You do

EFFECTIVE INSTRUCTION
Explicit

4 Steps in Instruction?
1. DEMONSTRATION: I do
2. GUIDED PRACTICE: We do
3. COLLABORATION: Y'all do
4. INDEPENDENT PRACTICE: You do

EFFECTIVE INSTRUCTION
Active Engagement

Minimum teacher TALK
Students “DOING”:
• ORAL reading—most time on connected text
• Encoding words, spelling, writing
• Talking, discussing, collaborating, commenting, etc., etc.
EFFECTIVE INSTRUCTION

Intensive

• URGENT!
  — NO wasted time
• RELENTLESS!
  — NO excuses
• FOCUSED!
  — Data-driven instruction:
    What do students need?
  — KEY skills taught
  — Linked to standards

MATERIALS

• Age appropriate
• Matched to identified needs
• Skill-level appropriate
• Evidence of effectiveness
• Sufficient professional development provided
• Used with fidelity

Educators as Physicians

“This is what we’ve found…

…and here’s what we can do.”
Educators as Physicians

“How are things going? Are you feeling better?”

Monitor progress

The Question?

Is the student making progress toward instructional goals?

Progress Monitoring in Reading: 2 Forms

On-Level (Tier I)

Supplemental (Tier II) or Intervention (Tier III)

Major role in RTI decisions
Progress Monitoring in Reading: 2 Forms

On-Level (Tier I)
Repeat benchmark assessments
3x year
+ daily observation & in-program assessments

Supplemental (Tier II) or Intervention (Tier III)
Curriculum-based Measurement (CBM) ORF or maze
Some adjustments in the procedures

CBM Progress Monitoring for Reading

Scores compare students’ to individual goals rather than grade norms or benchmarks
CBM-R Progress Monitoring

**DIFFERENCES**

- Level of passages?
- Frequency?
- Number of passages?
- Graph results

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**Research on CBM Progress Monitoring**

- Insufficient research.
- Schools must use multiple sources of information to support decisions about progress.
- All CBM scores are estimates.
- Confidence intervals must be used.

Ardoin & Christ (2009)

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**CBM Monitoring Reading Progress using oral reading fluency**

- 1 minute oral reading sample
- Administered 1:1
- Score for words correct per minute
- **INSTRUCTIONAL** or **GOAL** level (?)
- Assess 1x week or 2x month (?)
- One passage each time (?)

Jenkins, Graff & Miglioretti (2009) suggest that 3 scores collected every 3 weeks may be the most accurate measure of student progress

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CBM Monitoring Reading Progress using oral reading fluency

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- Administered 1:1
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- **INSTRUCTIONAL** or **GOAL** level (?)
- Assess 1x week or 2x month (?)
- One passage each time (?)
- Graph the results

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How Much Growth?  
Fuchs, et al. (1993)

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<td>.3 words per week</td>
<td>.65 words per week</td>
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Setting Up a Progress Monitoring Graph  
4th gr. student; 2nd gr. reading level

1. 2-3 passages at **INSTRUCTIONAL** or **GOAL** level to establish baseline score (Gr. 3?)
2. 83, 78, 85 wcpm (median: 83; mean 82)
3. Determine weekly **goal** (2 words/wk?)
4. Determine goal period (10 weeks?)
5. # words per week (weekly goal) x # weeks; add to mean/median score (2 x 10 + 83 = 105)
6. Plot baseline and goal scores on graph
7. Draw “aim line”… & begin instruction
INTERPRETING Progress Monitoring Graphs

General Rules:
from National Center for Progress Monitoring

Use 5 consecutive scores

- If all ABOVE goal-line:
  Keep current intervention and increase goal
- If all BELOW goal-line:
  Keep current goal and modify the instruction
- If NEITHER ABOVE OR BELOW goal-line:
  Maintain goal & instruction & continue monitoring

What to “MODIFY”? 

- Appropriate “MATCH” of instruction?
- QUALITY of program & instruction?
- FIDELITY of instruction?
- INTENSITY of instruction?
- DURATION of instruction?
CBM Information Sources

The ABCs of CBM
Hosp, Hosp, & Howell (2007)

CBM: From Skeptic to Advocate
Hasbrouck & Ihnot (2007)

National Center on
Student Progress Monitoring
www.studentprogress.org

Fluent Reader.org
www.fluentreader.org

THANK YOU!

Jan Hasbrouck, Ph.D.

- Gibson Hasbrouck & Associates
  www.gha-pd.com

- JH Consulting
  www.jhasbrouck.com
### NATIONAL WCPM NORMS

Hasbrouck & Tindal (2006)

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*WCPM = Words Correct Per Minute
## NATIONAL WCPM NORMS

50th Percentiles  
Hasbrouck & Tindal (2006)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Fall wcpm</th>
<th>Winter wcpm</th>
<th>Spring wcpm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<tr>
<td>8</td>
<td>133</td>
<td>146</td>
<td>151</td>
</tr>
</tbody>
</table>

Gr 1 & 2:  
GREEN zone  5 or more to -2  
YELLOW Zone -3 to -5  
RED Zone >6 below  

Gr 3+:  
GREEN zone  10 or more to -4  
YELLOW Zone -5 to -10  
RED Zone >10 below
Informal Reading Inventory (modified) + Fluency

Continue appropriate instruction based on assessment results

Phonics & Decoding

Assess phonics & decoding if instruction has started for this skill

PA & Sight Words

Teach blending, segmenting sounds, & sight words