Using TRC to improve the prediction accuracy of DORF on the Third Grade Reading EOG

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Significance of the Project

- Large numbers of students are scoring below minimal levels of proficiency on standardized reading measures
  - 33% of 4th grade students
    - NCES, 2011
- 37% of third grade NC students perform below proficiency on reading comprehension
  - NC DPI
Consequences

• Read less (Stanovich, 1986)

• Longer to remediate (Torgesen et al., 1999)

• Rarely catch-up (Francis et al., 1996; Juel, 1988)

• More likely to drop out
  – 13,488 drop-outs in 2011-12 (NCDPI, 2013)
Responsiveness to Instruction (RtI)

- Leadership & Shared Responsibility
- Curriculum & Instruction
- Problem-Solving/Data Based Decision Making
- Assessment
- Family & Community Partnerships
- Sustainability & Integration
Assessment in RtI

• Screening
  – All students
  – Brief
  – Identify
    • Areas of weakness
    • Individual students
Characteristics of Good Screens in RtI Context

• Find students who need additional support

• Students who will not need support are not identified as struggling
Decision-Making

• High stakes or low stakes?

• Multiple measures encouraged
  – Compton et al., 2006; Johnson et al., 2007; Gersten et al. 2008
Oral Reading Fluency (ORF)

• Reliable and valid
• Easily communicable
• Brief
• Sensitive to short-term progress
• Minimal cost (*time, money, personnel*)

– Deno, 1985
Value

• Formatively assessing students can lead to an increase of student academic achievement from the 50th to 76th percentile
  – Fuchs & Fuchs, 1986

Image by John Hattie from “Visible Learning”
ORF and Reading

• Strong relationship with reading comprehension (Fuchs, Fuchs, Jenkins, Hosp, 2001; NRP, 2000)

• Overall indicator of reading “health”
  – (Wayman et al., 2007)
ORF and State Standards Tests

- Strong relation
  - Barger 2003
  - Good et al 2001
  - Scheffel et al 2012
  - And a bunch more!
Question

• Does Text Reading and Comprehension (TRC) improve accuracy of DIBELS ORF (DORF) risk status for predicting EOG outcomes?
Participants

- 5 elementary schools
- EOG $m = 338$ (below state $m = 340$)
- White 37%, African American 22%, Latino 25%
- ELL: 21%
- Free-reduced: 55% – 90%
- SE eligible: 14%
Measures

Text Reading and Comprehension (TRC)
• Running Record
• Comprehension (oral & written)
• 5-8 minutes

DIBELS ORF (DORF)
• Read aloud 3 grade level passages
• 4-6 minutes
Method

- 2<sup>nd</sup> grade cohort
- DORF and TRC time points (2010-12)
- 3<sup>rd</sup> grade EOG (spring 2012)
Relation of DORF and EOG

- Moderate to strong
- Temporal
- Comparable to other studies
2\textsuperscript{nd} Winter DORF Low Risk

- Overall Correct Classification: 70%
- <68 WRC and Fail EOG: 70%
- >68 WRC and Pass EOG: 70%
2nd grade Winter DORF (Low Risk) & TRC

- Overall Correct: 68%

- 48% at-risk who failed EOG (42 hits; 46 miss)

- 82% not at-risk who pass EOG (103 hits; 23 miss)
3rd Fall DORF

- Overall Correct Classification: 70%
- <77 WRC and Fail EOG: 66%
- >77 WRC and Pass EOG: 73%
3rd grade Fall DORF (Low Risk) & TRC

Overall Correct: 73%

50% at-risk who failed EOG (18 hits; 19 miss)

81% not at-risk who pass EOG (85 hits; 20 miss)
3rd Fall DORF
(At Risk + Some Risk) + TRC

Overall Correct: 70%

77% at-risk (79 hits; 23 miss)

57% not at risk (28 hits; 21 miss)
## Adjustment Comparison

<table>
<thead>
<tr>
<th>&gt;77 wrc</th>
<th>&gt;90 wrc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall: 70%</td>
<td>Overall: 65%</td>
</tr>
<tr>
<td>At-risk: 66%</td>
<td>At-risk: 59%</td>
</tr>
<tr>
<td>101 Hits; 51 Miss</td>
<td>120 Hits; 85 Miss</td>
</tr>
<tr>
<td>Not at-risk: 73%</td>
<td>Not at-risk: 78%</td>
</tr>
<tr>
<td>105 Hits; 39 Miss</td>
<td>71 Hits; 20 Miss</td>
</tr>
</tbody>
</table>
How can I apply results for my students?

<table>
<thead>
<tr>
<th></th>
<th>EOG</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fail</td>
</tr>
<tr>
<td>DORF + TRC Fail</td>
<td>True Positive*</td>
</tr>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>DORF + TRC Pass</td>
<td>Under-referral C</td>
</tr>
</tbody>
</table>
## Using Results to Inform Instruction

### Making the Instructional Match

<table>
<thead>
<tr>
<th>Quadrant 1</th>
<th>Quadrant 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accurate and Fluency Reader</td>
<td>Accurate and Slow Reader (lack of automaticity)</td>
</tr>
<tr>
<td><strong>Dig Deeper in the areas of reading comprehension, including vocabulary and specific comprehension strategies.</strong></td>
<td><strong>Build reading fluency skills. (Repeated Reading, Paired Reading, etc.) Embed comprehension checks/strategies.</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quadrant 3</th>
<th>Quadrant 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inaccurate and Slow Reader</td>
<td>Inaccurate and Fluent Reader</td>
</tr>
<tr>
<td><strong>Conduct an error analysis to determine instructional need. Teach to the instructional need paired with fluency building strategies. Embed comprehension checks/strategies. For significant decoding issues consider an EB intervention program.</strong></td>
<td><em><em>Conduct Table-Tap Method</em>. If student can correct error easily, teach student to self-monitor reading accuracy. If reader cannot self-correct errors, complete an error analysis to determine instructional need. Teach to the instructional need.</em>*</td>
</tr>
</tbody>
</table>

*Table-Tap Method: A method used to assess reading accuracy and fluency. It involves tapping the table to count the number of words read correctly in a given time period. This method helps teachers identify areas where students need additional support.
Closing

- Addition of TRC
- Hits/Misses
- Extra measure or adjusts scores
Questions?
Contact

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Using Text Reading and Comprehension (TRC) to Enhance the Predictive Accuracy of the Dynamic Indicators of Basic Early Literacy Skills Oral Reading Fluency (DIBELS DORF) subtest on the Third Grade End-of-Grade (EOG) Reading Comprehension Test

Brief Task Analysis to Create a Diagnostic Efficiency Matrix

Place students who fail the screen and fail the EOG in Box A.

Place students who fail the screen, but pass the EOG in Box B.

Place students who pass the screen, but fail the EOG in Box C.

Place students who pass the screen and pass the EOG in Box D.

<table>
<thead>
<tr>
<th>Screening Measure</th>
<th>EOG</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fail</td>
</tr>
<tr>
<td>DORF + &lt; Prof. TRC</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>True Positive</td>
</tr>
<tr>
<td>DORF + &gt; Prof. TRC</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>(Under referral)</td>
</tr>
</tbody>
</table>

\[ N = \text{Total # of students} \]
\[ (A + B + C + D) \]

Formulas for Calculating Identification Percentages

Percentage of students identified as at risk on the screen who fail the outcome test

\[ A / (A + B) \]

Percentage of students identified as not at risk on the screen that pass the outcome test

\[ D / (C + D) \]

Summative measure used to describe the proportion of students who are correctly identified as either at risk or not at risk

\[ (A + D) / N \]