Multi-Tiered Academic Interventions (Burns, Jimerson, & Deno, 2007)

**Tier I:** All Students - Quality core instruction, universal screening

**Tier II:** 15% to 20% of students - Standardized interventions with small groups

**Tier III:** 5% of students - Individualized interventions from in-depth problem analysis
RTI and Problem-Solving

- Tier I
- Tier II
- Tier III
Problem Solving

- Tier I – Identify discrepancy between expectation and performance for class or individual
- Tier II – Identify discrepancy for individual. Identify category of problem. Assign small group solution.
- Tier III – Identify discrepancy for individual. Identify causal variable. Implement individual intervention.
High School Readers

• Lack of consensus on how best to intervene with older struggling readers (Espin & Tindal, 1998).

• Multiple factors contribute to comprehension of high schoolers (phonics, fluency and vocabulary, Edmonds et al. 2009).
  – Reading fluency has been shown to account for 30% of the variation in high school graduation tests
  – Teaching word level skills to adolescents resulted in a moderate effect on comprehension (Joseph & Schisler, 2009; Rasinski et al., 2005).
National Reading Panel

- Phonemic Awareness
- Phonics
- Fluency
- Vocabulary
- Comprehension

Berninger et al., 2006
Assess 4 NRP Areas

• Phonemic Awareness
  – Phoneme segmentation fluency

• Phonics
  – Nonsense word fluency

• Fluency
  – Oral reading fluency

• Vocabulary/Comprehension
What are the effects of matching reading interventions to student skill for adolescent readers at risk for reading problems?
Category of Problem MN HS

- 9-12 with approximately 1600 students
- 69.2% pass reading
- 9th-10th grade
- 28% low on MAP for Reading (~225)
- 45% Low on Test of Silent Contextual Reading Fluency (TOSCRF) (~100)
  - 64% low on phonics (~65)
  - 36% acceptable phonics (~36)
Participants

- Three remedial classrooms (two teachers)
- All below the 25% percentile on MAP
- 52.6% 9th graders and 47.4% 10th graders
- 50% female and male
- 69.7% Caucasian, 10.5% Asian-American, 18.4% Hispanic-American, 1.3% African-American
- 15.8% of the students were ELL
Groups

• Randomly assigned to two groups
  – Read 180
  – Targeted (phonics – REWARDS, fluency – Read Naturally, comprehension – Read 180)

• Wait list control group

• 20 minutes each day for 13 weeks in addition to reading and study skills
<table>
<thead>
<tr>
<th>Variable</th>
<th>Targeted Interventions</th>
<th>Control</th>
<th>Waitlist Control</th>
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<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
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<tr>
<td>Fluency Pretest</td>
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<td>94.32</td>
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<td>4.20</td>
<td>20.00</td>
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<td>Last Maze</td>
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<td>.54</td>
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<td>9.25</td>
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<td>Map Winter</td>
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<td>7.56</td>
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ANCOVA for fluency $F(1, 42) = 4.98, p < .05, d = .50$
ANCOVA for Maze slope $F(1, 44) = 1.04, p = .31, d = .32.$
ANCOVA for MAP $F(2, 74) = 5.84, p < .05$, partial eta squared = .14.
Teacher Acceptability

- Intervention Rating Profile (IRP-15; Martins, Witt, Elliott & Darveaux, 1985)
- 30 or higher – high acceptability
- 34.5 for Read 180
- 35.5 for REWARDS
- 28.0 for Read Naturally
  - One teacher rated Read Naturally particularly low (Total Score = 22)
Limitations and Next Steps

- Vocabulary???
- Fluency measure?
- Reading comprehension intervention
- Small sample size from one school
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