“Ask the Experts” Webinar

Return to School Special Series

• Series of recorded webinars to be posted on the NASP website for NASP members only that provide more in-depth skill-based content to help school psychologists prepare for the return to school.

• Webinars are designed to offer support to school psychologists, interns, and practicum students as they navigate the delivery of school psychological services during the COVID-19 pandemic.

• Each webinar will be followed by the opening of a discussion thread on the NASP member exchange community.

• Each webinar will:
  – Address critical questions emerging as a result of the need to provide virtual telehealth school psychological services
  – Provide advice and guidance from experts
  – Offer suggested strategies and resources for addressing professional practice issues
Expert Presenter

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The Equity Promise of MTSS:
Effective Instruction for All

• There will be high base rates of risk in the Fall

• Demystify screening

• How can screening proceed in light of high base rates?
The School Psychologist as Instructional Ally: Don’t Do This

Paralysis by Analysis

Low-Yield Tactics
Instead, Do This

- Strategic Vision
- Data Sources
- Needs
- Costs/Benefits
- Tactics (Implementation Management)
Quick review of best practices for academic screening

Post-COVID implications
“Pass” for the Screening Measure. You move this line up and down to “catch” as many of those who will not pass as possible.
If you increase threshold for risk, you will prevent 2 false negative errors, but you will add 8 false positive errors as a result.
<table>
<thead>
<tr>
<th>CBM Reading score closest to testing (4/21/05)</th>
<th>AIMS reading scaled score</th>
</tr>
</thead>
<tbody>
<tr>
<td>False Negative Errors</td>
<td>Correct Negatives</td>
</tr>
<tr>
<td>True Positives</td>
<td>Correct Negatives</td>
</tr>
<tr>
<td>False Positive Errors</td>
<td>False Positive Errors</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Failed Criterion</th>
<th>Passed Criterion</th>
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<tbody>
<tr>
<td>Failed Screen</td>
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<tr>
<td>Passed Screen</td>
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</table>
Failed
Criterion
Passed Criterion

<table>
<thead>
<tr>
<th>Failed Screen</th>
<th>Correct Positives</th>
<th>False Positives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passed Screen</td>
<td>False Negatives</td>
<td>Correct Negatives</td>
</tr>
</tbody>
</table>

**Sensitivity** = 
Correct Positives / 
Correct Positives + False Negatives

**Specificity** = 
Correct Negatives / 
False Positives + Correct Negatives

**Positive Predictive Power** = 
Correct Positives / Correct Positives + False Positives

**Negative Predictive Power** = 
Correct Negatives / False Negatives + Correct Negatives

**Pre-Test Probability or Base Rate** = Real Positives / 
Real Positives + Real Negatives

**Pre-Test Odds** = Pre-Test Probability / (1 – Pre-Test Probability)

**Positive Likelihood Ratio** = sensitivity / (1 – specificity).

**Positive Post-Test Odds** = Pre-test odds x Positive Likelihood Ratio

**Negative Likelihood Ratio** = (1 – sensitivity) / Specificity.

**Negative Post-Test Odds** = Pre-test odds x Negative Likelihood Ratio

**Positive Post-Test Probability** = Positive Post-Test Odds / (1 + Positive Post-Test Odds)

**Negative Post-Test Probability** = Negative Post-Test Odds / (1 + Negative Post-Test Odds)
Risk (& Prediction) Varies with Base Rate

Negative Post-Test Probabilities for Screenings with Sensitivity & Specificity at 90%

NPP at Sensitivity/Specificity = .90
Figure 3. Accuracy of the preceding year’s accountability scores in mathematics in predicting proficient performance on current end-of-year test for mathematics.
Before Intervention

Figure 4. Accuracy of the mathematics screener for students who receive a free or reduced-price lunch.

After Intervention

Figure 5. Illustration of the use of intervention to reduce overall risk and permit more accurate screening decisions.
Adding Additional Measures at the Same Screening Generally Does Not Improve Accuracy

And May Do Harm for Students who Perform Above the 16th Percentile

Choose the Most Efficient Assessment

Middle Bands of Risk Create Confusion and Inflate Accuracies!
Generally know who these students are.
False Positive Rate = False Positives/total Criterion-Negative Cases

False Negative Rate = False Negatives/total Criterion-Positive Cases
False-Positive Errors Increase Substantially

**False Negative Rate**
- MAP: All Students: 20%, Bottom 50%: 20%
- CBM: All Students: 30%, Bottom 50%: 30%
- DRA: All Students: 30%, Bottom 50%: 30%

**False Positive Rate**
- MAP: All Students: 60%, Bottom 50%: 60%
- CBM: All Students: 50%, Bottom 50%: 50%
- DRA: All Students: 40%, Bottom 50%: 40%
<table>
<thead>
<tr>
<th></th>
<th>Sens</th>
<th>Spec</th>
<th>LR +</th>
<th>LR-</th>
<th>PPTP</th>
<th>NPTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAP ((n = 178))</td>
<td>0.83</td>
<td>0.43</td>
<td>1.46</td>
<td>0.40</td>
<td>29%</td>
<td>10%</td>
</tr>
<tr>
<td>MAP Fall ((n = 399))**</td>
<td>0.83</td>
<td>0.66</td>
<td>2.44</td>
<td>0.26</td>
<td>41%</td>
<td>7%</td>
</tr>
<tr>
<td>DRA ((n = 171))</td>
<td>0.70</td>
<td>0.56</td>
<td>1.59</td>
<td>0.54</td>
<td>31%</td>
<td>13%</td>
</tr>
<tr>
<td>DRA Fall ((n = 385))</td>
<td>0.70</td>
<td>0.72</td>
<td>2.5</td>
<td>0.42</td>
<td>41%</td>
<td>12%</td>
</tr>
<tr>
<td>CBM ((n = 176))</td>
<td>0.73</td>
<td>0.44</td>
<td>1.30</td>
<td>0.61</td>
<td>27%</td>
<td>15%</td>
</tr>
<tr>
<td>CBM Fall ((n = 394))</td>
<td>0.73</td>
<td>0.61</td>
<td>1.87</td>
<td>0.44</td>
<td>35%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Bottom 50%  
All Students

**
Use Classwide Intervention as Gate in Screening

**Mixed Addition/Subtraction 0-20**

Create Intervention Materials to View or Print

Classwide Rate of Improvement: 9.2

This is the child who is at-risk or in need of intensified instruction
Fall 2019-20 Screening Results
The results are in. Let’s take a look..

Classroom Performance
4% of your class reached the target on all of the screening assessments. Extra practice will help you reach mastery at this grade level.

The classwide intervention has already been started.

Measure 1: Fact Families: Addition/Subtraction 0-20
Your students’ screening scores compared to the target score.
Your class is currently in class wide intervention. Complete intervention activities daily and enter progress monitoring scores weekly.

**Mixed Addition/Subtraction 0-20**

Create Intervention Materials to View or Print

Classwide Rate of Improvement: 3.8

- Mastery Target (40)
- Instructional Target (25)

- August 05
- August 12
- August 19
- August 26
- September 02

Show Students scores
Your class is currently in class wide intervention. Complete intervention activities daily and enter progress monitoring scores weekly.

Mixed Addition/Subtraction 0-20

Create Intervention Materials to View or Print

Classwide Rate of Improvement: 3.8

Mastery Target (40)

Instructional Target (25)

Score

Aug-05  Aug-12  Aug-19  Aug-26  Sep-02

Intervention Progress

- Mixed Addition/Subtraction 0-20
- Fact Families: Add/Subtract 0-9
- Fact Families: Addition/Subtraction 0-20
- Addition 3-Digit Numbers with & without Regrouping
- Subtraction 3-Digit Number with & without Regrouping
- Add/Subtract 3-Digit Numbers with & without Regrouping
- Multiplication 0-9
- Multiplication 5-9
- Division 0-9
- Fact Families: Multiplication/Division 0-9
- Multiplication 0-12
- Division 0-12
- Fact Families: Multiplication/Division 0-12
Fall 2019-20 Screening Results
The results are in. Let's take a look...

Classroom Performance
42% of your class reached the target on all of the screening assessments. Extra practice will help you reach mastery at this grade level.

The classwide intervention has already been started.

8% Measure 1
19% Measure 2
19% Measure 3

Individual Intervention Based on Classwide Screening Data

Measure 1: Fact Families: Addition/Subtraction 0-20
Your students' screening scores compared to the target score.
Classwide Intervention

1 Mathematics

- Intervention Progress: 57%
- Intervention Consistency: 8 of 14 weeks with scores
- Average Weeks per Skill: 2.8
- Start of Interventions

Eligible for Individual Intervention

The following students would benefit from individual interventions. If you have additional capacity, you may choose to begin interventions with some of these students. Intervention takes 10-15 minutes a day per student, so we recommend selecting 1 or 2 students to work with.

Amanda

- Measure 1: Score 28, Target 13
- Measure 2: Score 41, Target 20
- Measure 3: Score 18, Target 20
- Measure 4: Score 18, Target 20

Paul

- Measure 1: Score 31, Target 13
- Measure 2: Score 26, Target 20
- Measure 3: Score 11, Target 20
- Measure 4: Score 24, Target 20

Vicki

- Measure 1: Score 31, Target 13
- Measure 2: Score 49, Target 20
- Measure 3: Score 18, Target 20
- Measure 4: Score 15, Target 20
Classwide Intervention Lowers Base Rate of Risk & Improves Decision Accuracy


https://www.researchgate.net/publication/336702020_Classification_Agreement_for_Gated_Screening_in_Mathematics_Subskill_Mastery_Measurement_and_Classwide_Intervention
Report to Leaders

- Dose, Growth on Proximal, Growth on Distal

### Kindergarten
- Percentage of Skills Mastered (2017-2018): 58%
- Percentage of Skills Mastered (2018-2019): 100%

### 1st Grade
- Percentage of Skills Mastered (2017-2018): 60%
- Percentage of Skills Mastered (2018-2019): 80%

### 2nd Grade
- Percentage of Skills Mastered (2017-2018): 62%
- Percentage of Skills Mastered (2018-2019): 88%

### 3rd Grade
- Percentage of Skills Mastered (2017-2018): 35%
- Percentage of Skills Mastered (2018-2019): 68%

### 4th Grade
- Percentage of Skills Mastered (2017-2018): 22%
- Percentage of Skills Mastered (2018-2019): 49%

#### Percent Proficient on Winter DIBELS Composite by Grade & Year

- K: 0% (2017), 95% (2018), 80% (2019), 100% (High-Dose 2019)
- 1: 53% (2017), 56% (2018), 84% (2019), 85% (High-Dose 2019)
- 2: 65% (2017), 69% (2018), 75% (2019), 85% (High-Dose 2019)
- 3: 84% (2017), 88% (2018), 92% (2019), 100% (High-Dose 2019)
- 4: 85% (2017), 74% (2018), 63% (2019), 64% (High-Dose 2019)

#### Percent Proficient on PSSA (State Year-End Test) for Grades 3 and 4

- 3rd Grade: 39% (2017-2018), 76% (2018-2019)
- 4th Grade: 63% (2017-2018), 64% (2018-2019)
Within-Class, Within-Year Improvements

We can track within teacher growth from fall to winter to spring. Here we see that this class has grown from 69% of students at mastery to 100% of students at mastery on a grade-level math skill.

Across-Class Differences

We can detect performance differences between classes at the same grade level.
What Must Leaders Know?

- What actions are underway?
- What are the results right now?
- Where is support needed?
- Are proximal indicators headed in the right direction?
- What are the barriers we can troubleshoot?
Teacher: Are Students Growing?

Teacher: Does Growth Transfer?
Questions and Considerations

1. Screening cannot proceed as it has in the past.

2. Don’t enter a hands-off waiting period.

3. Introduce classwide intervention as rapidly as possible.

4. It’s an opportunity to update our practice.
NASP Resources

- NASP COVID-19 Resource Center

- Considerations for Academic Assessments and Interventions Upon a Return to School
  https://www.nasponline.org/return-to-school-academic

- Screening Post-COVID-19
  https://www.nasponline.org/return-to-school-academic

- Virtual Service Delivery in Response to COVID Disruptions
  https://www.nasponline.org/x55063.xml

- Equity Considerations During and After COVID-19 School Closures
  https://www.nasponline.org/x55210.xml
External Resources

Center on Response to Intervention (AIR)
https://rti4success.org/

Institute for Education Sciences: What Works Clearinghouse
https://ies.ed.gov/ncee/wwc/

Minnesota Center for Reading Research
https://mcrr.umn.edu/programs/path-reading-excellence-schools-sites-press

National Center on Intensive Intervention: Tools, Charts, and Implementation Rubric
https://intensiveintervention.org/

Spring Math
www.springmath.com
References
