Decision Making within an Early Childhood RtI Model

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Today’s Session

- EC RTI: Model for instructional decision making.
- Typical RTI decision making: the pyramid approach
- CRTIEC: A new approach
- Lessons Learned
First: What is CRTIEC?

Center for Response to Intervention in Early Childhood

- Goal: To *create an infrastructure for Response to Intervention in Early Childhood* settings by *developing and validating interventions and assessment tools* so that pre-kindergarten programs can find and intervene earlier with young children showing the earliest signs of early literacy difficulties.

http://www.crtiec.org
Need to identify the tier of service that best meets the needs of individual students.

- Typically accomplished through universal screening of all enrolled students at specified time points (F/W/S).

- In traditional K-12 RTI models, student’s ability and corresponding need typically portrayed as a pyramid which corresponds to typical developmental model.
The Traditional RTI Pyramid

**ACADEMIC SYSTEMS**

**TIER 3** Intensive, Individual Interventions
- Individual students
- Assessment-based
- High intensity
- Of longer duration

**TIER 2** Targeted Group Interventions
- Some students (at-risk)
- High efficiency
- Rapid response

**TIER 1** Core Instructional Interventions
- All students
- Preventive, proactive

**BEHAVIORAL SYSTEMS**

**TIER 3** Intensive, Individual Interventions
- Individual students
- Assessment-based
- Intense, durable procedures

**TIER 2** Targeted Group Interventions
- Some students (at-risk)
- High efficiency
- Rapid response

**TIER 1** Core Instructional Interventions
- All settings, all students
- Preventive, proactive
CRTIEC’s Model: A Unique Approach

- Individual Growth and Development Indicators – 2nd Edition (IGDIs 2.0) are criterion referenced measures of children’s language and early literacy development.
  - Criterion established through a standard setting process.
  - This criterion is represented as a cut score, with score above the cut on IGDI indicating Tier 1 performance and score below the cut indicating Tier 2/3 performance.
A standard setting process was used to establish criterion-referenced cut scores. These standards consisted of operational definitions of child performance that would be typical of students with needs at each of the respective tier levels, for each domain.

Students were assessed with IGDIIs. Teachers were given these tier level descriptors and ranked students as good candidates for Tier 1, Tier 2 or Tier 3.
Oral Language

Tier 3
Describes a student that:

- Has limited verbal skills
- Uses primarily 1 to 2 word utterances and short phrases to communicate
- Does not tell or talk about stories.
- May exhibit frustration or challenging behavior related to limited communicative skill.

Tier 2
Describes a student that:

- Primarily uses nouns and verbs in simple sentences during conversation.
- Tends to use nonspecific words (e.g., "this, that, stuff") when describing objects, people and places.
- Struggles to engage in conversation about unfamiliar topics.
- Struggles to engage in conversation about topics not in their immediate environment.
- Struggles to tell or talk about stories.

Tier 1
Describes a student:

- That does not meet criteria for Tier 2 or Tier 3.
- For whom you have no concerns in this area.
Setting the cut scores and ranges

- A combination of Rasch output, ROC analysis, Regression analysis and contrasting groups design methods were used to identify the Rasch value the best distinguished between Tier 1 and Tier 2/3 ability.
- Cut scores maximized fit between IGDI scores and teacher judgment about ability level.
Picture Naming
How it works
Currently, we have not been able to empirically identify IGDI cut scores that distinguish between Tier Two and Tier Three candidates.

We developed a Decision Making Framework (DMF) to support IGDI score interpretation for instructional decision making in an EC RTI model.
CRTIEC DMF: A Multiple Gating Model

- CRTIEC has adopted a multiple gating model of decision making.
  - Successive “narrowing of the playing field”
  - Maximizes efficient use of resources.
- Model uses teacher judgments gathered using a questionnaire at 2nd and 3rd gates.
  - Recent studies have found teacher ratings act as significant predictors of at-risk status (Speece & Ritchey, 2005; Speece et al., 2010).
DMF: Supporting Rationale

- Efficient use of resources and alignment with measurement best practice.

- According to the *Standards for Educational and Psychological Testing* (AERA, APA, NCME, 1999), instructional decisions should never be made with only one source of data.
  
  - It is important to have multiple sources of data to support instructional decision making.
# Oral Language Teacher Questionnaire Scale One

## Part 1. Language and Comprehension Skills

<table>
<thead>
<tr>
<th></th>
<th>Rarely or Never</th>
<th>Less Often</th>
<th>More Often</th>
<th>Frequently Or Always</th>
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<tbody>
<tr>
<td>1. This child uses grammatically correct sentences when speaking.</td>
<td></td>
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<tr>
<td>2. This child learns new words without much difficulty.</td>
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<tr>
<td>3. This child uses adjectives to describe objects, places or things. (Ex: I want the RED ball).</td>
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<tr>
<td>4. This child tells simple stories that make sense.</td>
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<td>5. This child can answer questions about events that happened in the past.</td>
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<td>6. This child can tell you what they did over the weekend.</td>
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Validation of DMF

- Have conducted a field study to validate the DMF.
  - 2012-13 Academic Year
  - 5 school districts in the Metro Twin Cities
  - Students were given the IGDIs, teachers completed Teacher Questionnaires, and students were given the Comprehensive Evaluation of language Fundamentals – Preschool, version 2 [CELF-Preschool 2]
Validation of DMF

Research Questions:

- What is the relation between score on the teacher questionnaire and score on the standardized criterion measure?
- What is the classification accuracy of the DMF when a standardized measure is used as the criterion of need?
- Does the mean standardized criterion test score differ significantly across tier assignment groups (tier 1, tier 2, tier 3)?
- Which variables or combination of variables capture the most variance in predicting language and literacy status?
DMF Lessons Learned
What is the relation between score on the teacher questionnaire and score on the standardized criterion measure?

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<th>scale3</th>
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**. Correlation is significant at the 0.01 level (2-tailed).
Research Question 2

What is the classification accuracy of the DMF when a standardized measure is used as the criterion of need?

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Research Question 3

Does the mean standardized criterion test score differ significantly across tier assignment groups (tier 1, tier 2, tier 3)?
Research Question #4

- Which variables or combination of variables capture the most variance in predicting language and literacy status?

- Result: IGDI scores account for the most variance in predicting CELF score, but the Teacher Questionnaire scale scores do account for a statistically significant amount of variation.
DMF Pyramid Proportions

Tier 1
44%

Tier 2
36%

Tier 3
20%
Traditional RTI Pyramid

Tier 1
80%

Tier 2
15%

T3
5%
Questions To Be Explored

- Is it appropriate and viable to propose an EC RTI model with 3 tiers of service?
  - Intervention challenges
    - Resources given increased proportions requiring Tier2/3.
    - Focus/Intensity of Tier 1 services
    - Capacity EC classrooms/teachers to differentiate instruction
Further Considerations

- Measurement Challenges
  - Criterion of Truth?
  - Alignment between domains of intervention/assessment: the 'profile' of skills to be assessed and taught is not defined in a standardized way.
  - Role of child background characteristics -- especially ELL status.
  - Role of behavior characteristics in determining level of intervention needed.
  - Burden of assessment vs. Practical Utility