



Measuring Responsiveness: Universal Screening & Progress Monitoring

Presented by
Amy E. Barth, Ph.D.

Texas Center for Learning Disabilities

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Welcome!

- Texas Center for Learning Disabilities Podcast Series
 - #1: TCLD Website Tour
 - #2: Identifying Students with Specific Learning Disabilities in a Response to Intervention Model
 - #3: Implementing Tier 2 and Tier 3 Reading Interventions: What Can Research Tell Us?
 - #4: Teaching Older Students with Reading Difficulties and Disabilities: How Do We Do RTI?
 - #5: Measuring Responsiveness: Universal Screening and Progress Monitoring

 - More to come covering other TCLD research topics!



Texas Center for Learning Disabilities

- Located across three organizations
 - University of Houston
 - The University of Texas at Austin
 - The University of Texas Health Science Center at Houston
- Project Investigators include:
 - Jack Fletcher
 - David Francis
 - Carolyn Denton
 - Sharon Vaughn
 - Andrew Papanicolaou



TCLD Research Projects

- Project I (Classification)
 - Project II (Early Identification)
 - Project III (Remediation)
 - Project IV (Magnetic Source Imaging)
-
- For more information, see www.texasldcenter.org



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Response to Intervention (RTI)

- RTI is an alternative framework for underachievement
 - Unexpected failure to benefit from validated, high quality instruction
- RTI eliminates poor instructional quality as a reason for learning difficulties

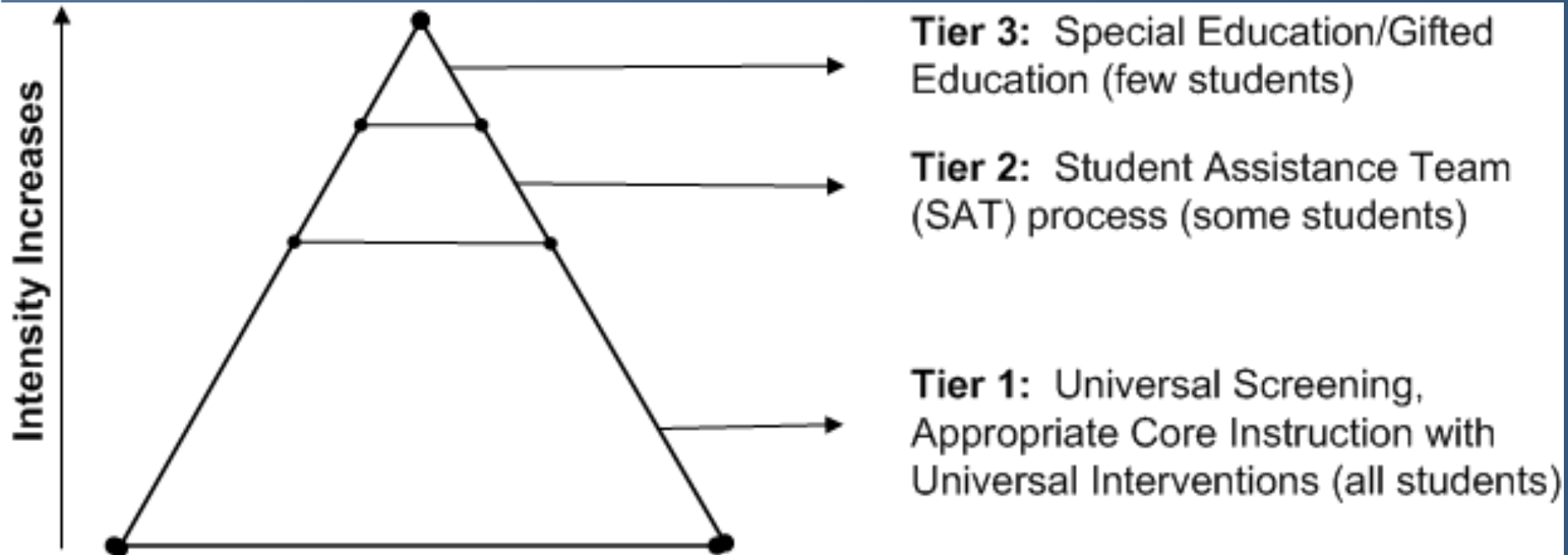


Advantages of RTI

- Students are provided intervention early
 - RTI does not wait for students to fail before providing more intense or specialized instruction
- Student assessment data is used to inform instructional decision making.



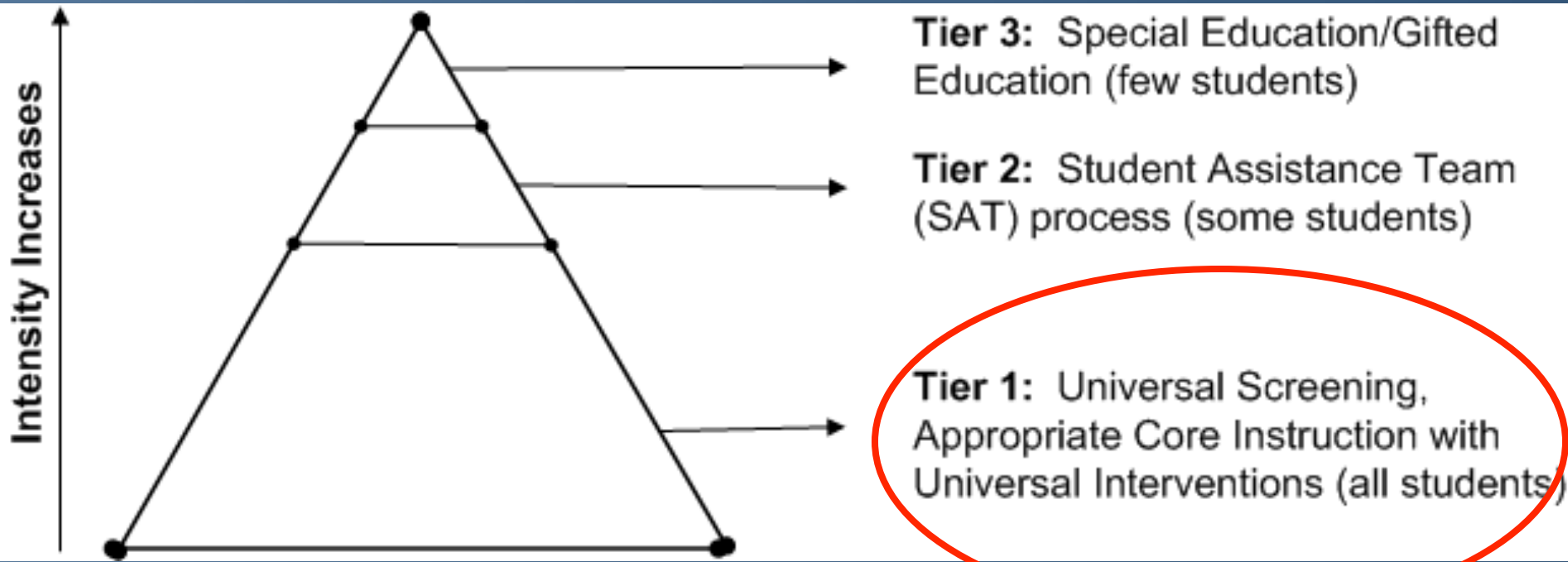
New Mexico Three-Tier Model of Student Intervention (2009)



New Mexico Public Education Department/Quality Assurance Bureau. (2009, February). Understanding and implementing the Response to Intervention (RTI) framework in New Mexico. A quick guide. Santa Fe, NM: Author



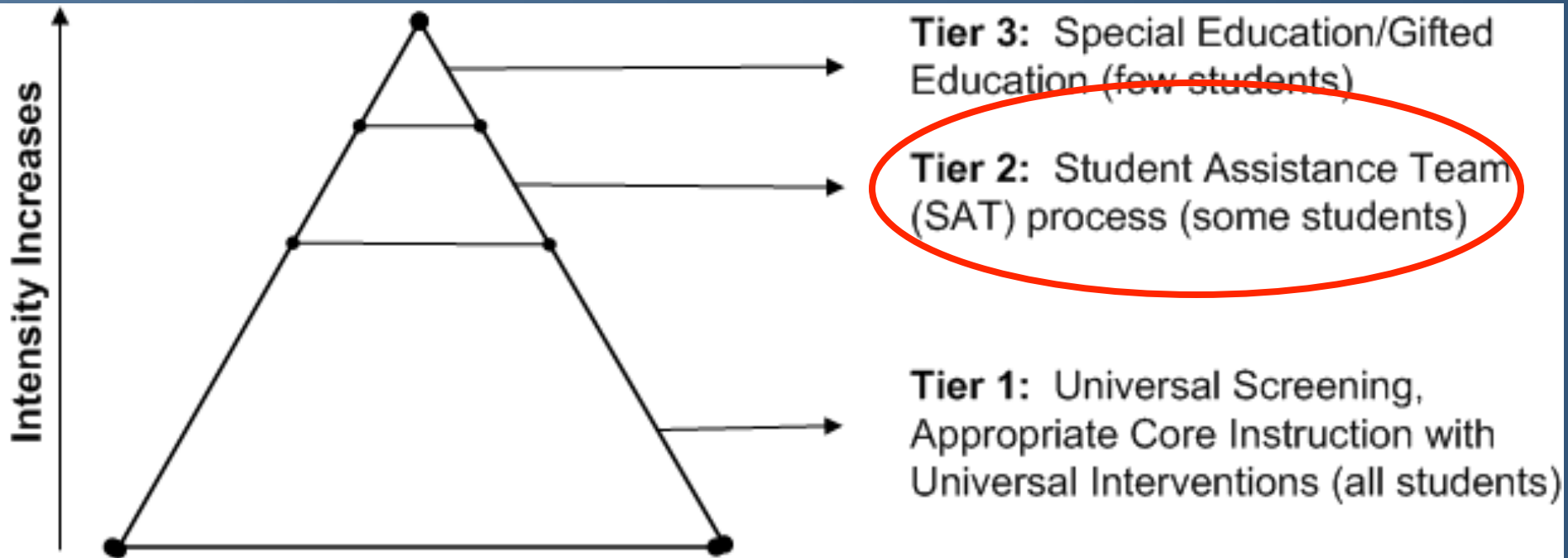
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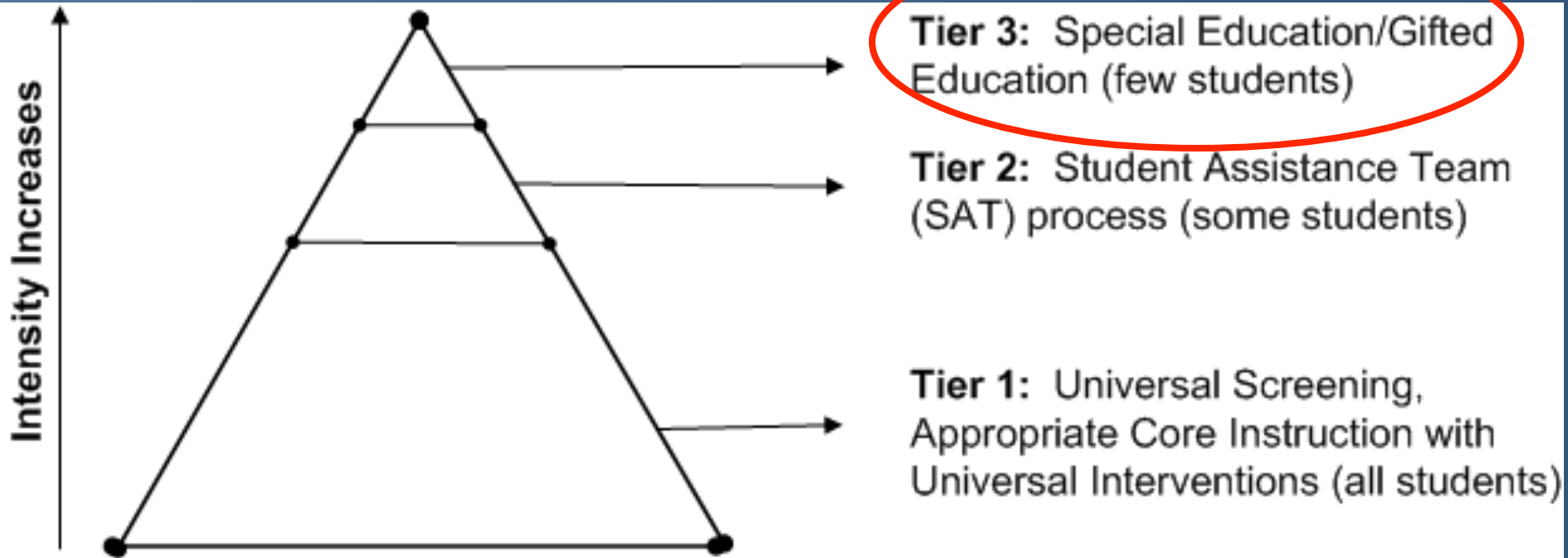
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Recommendation 1.

- Screen all students for potential learning problems at BOY and MOY
- Regularly monitor the progress of students who are at elevated risk for developing learning disabilities

Gersten, R., Compton, D., Connor, C. M., Dimino, J., Santoro, L., Linan-Thompson, S., & Tilly, W. D. (2008). *Assisting students struggling with reading: Response to Intervention and multi-tier intervention for reading in the primary grades. A practice guide.* (NCEE 209-4045). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from <http://ies.ed.gov/ncee/wwc/publications/practiceguides/>.



Universal Screening

- **"*Screening* involves brief assessments that are valid, reliable, and evidence-based. They are conducted with all students or targeted groups of students to identify students who are at risk of academic failure and, therefore, likely to need additional or alternative forms of instruction to supplement the conventional general education approach."**

National Research Center on Response to Instruction

<http://www.rti4success.org>



NM Universal Screening

- A variety of assessments that are administered to **all** students in the first weeks of school, and then again three to four other times during the school year as a way identify students at risk and/or to adjust instruction. Sometimes universal screening is called ***benchmarking*** as it is meant to measure adequate student progress towards grade-level proficiency of state standards. The yearly standards-based assessment is also considered universal screening.



Universal Screening

- Screening tests have historically been used in the health related professions
- Used to identify future health risks in individuals who appear healthy
- If the individual fails the screening test, follow up evaluation is initiated and if required, interventions are prescribed



Health Screening Example

- High blood pressure (HBP) can lead to heart attacks or strokes
- Each annual exam screens patients for HBP
 - Benchmark = below 140/90
- If screening suggests HBP then the patient is monitored over a 6-8 week period to confirm patient's risk status for HBP
- IF HBP is confirmed then treatment is outlined
 - Lifestyle
 - Medications: inexpensive diuretics
- For patients who fail to respond to treatment, tertiary prevention occurs
 - Lifestyle
 - Medications: ACE inhibitors, beta blockers



Universal Screening in Schools

- The first step is to screen all students
- Goal: To identify students at-risk for academic and behavioral difficulties



How do I carry out school-wide universal screening?

1. "Create a building-level team to facilitate the implementation of universal screening and progress monitoring" (p.12).



Building-level Team Members

- Principal
- Assistant Principal
- School Psychologist
- Special Education Representatives
- General Education Representatives



Focus of Building-level Team

- Logistics of implementing school-wide screening and subsequent progress monitoring
 - What assessments will be administered?
 - Who will administer the assessments?
 - Who will conduct the assessment training and ensure fidelity of implementation?
 - How will the data be managed?
 - Who will interpret the data?
 - Who will oversee the scheduling and implementation of BOY and MOY assessments?



Focus of Building-level Team

- Establish guidelines the school will follow when students do not respond to Tier 1 instruction
- Establish guidelines the school will follow when students do not respond to Tier 2 intervention and do respond to Tier 2 intervention
- Establish guidelines the school will follow when students do not respond to Tier 3 intervention and do respond to Tier 3 intervention



Focus of Building-level Team

- <http://www.ed.gov/about/offices/list/osep/osep/>
- <http://www.rti4success.org/>
- <http://www.studentprogress.org/>



How do I carry out school wide universal screening?

1. "Create a building-level team to facilitate the implementation of universal screening and progress monitoring" (p.12).
2. **"Select a set of efficient screening measures that identify children at risk for poor academic outcomes with reasonable accuracy" (p.12).**

1. SCREEN ALL STUDENTS FOR POTENTIAL READING PROBLEMS

Table 3. Recommended target areas for early screening and progress monitoring

| Measures | Recommended grade levels | Proficiencies assessed | Purpose | Limitations |
|--|--------------------------|---|-----------------------------------|--|
| Letter naming fluency | K-1 | Letter name identification and the ability to rapidly retrieve abstract information | Screening | This measure is poor for progress monitoring since students begin to learn to associate letters with sounds. It is not valid for English learners in kindergarten, but seems valid for grade 1. |
| Phoneme Segmentation | K-1 | Phonemic awareness | Screening and progress monitoring | This measure is problematic for measuring progress in the second semester of grade 1. As students learn to read, they seem to focus less on phonemic skills and more on decoding strategies. |
| Nonsense word fluency | 1 | Proficiency and automaticity with basic phonics rule | Screening and progress monitoring | This measure is limited to only very simple words and does not tap the ability to read irregular words or multisyllabic words. |
| Word identification ²⁶ | 1-2 | Word reading | Screening and progress monitoring | This measure addresses many of the limitations of nonsense word fluency by including multisyllabic and irregular words. |
| Oral reading fluency (also called passage reading fluency) | 1-2 | Reading connected text accurately and fluently | Screening and progress monitoring | Although the measure has moderately strong criterion-related validity, it cannot give a full picture of students' reading proficiency. Many students will score close to zero at the beginning of grade 1. The measure still is a reasonable predictor of end of year reading performance. |

Source: Authors' compilation based on Fuchs, Fuchs, Thompson, Al Otaiba, Yen, Yang, Braun, and O'Connor (2001b), Speece et al. (2003b); Schatschneider (2006); O'Connor and Jenkins (1999); and Baker and Baker (2008) for letter naming fluency. For phoneme segmentation, O'Connor and Jenkins (1999). For nonsense word fluency, Speece et al. (2003b); Good, Simmons, and Kame'enui (2001). For word identification, Fuchs, Fuchs, and Compton (2004); Compton et al. (2006). For oral reading fluency, Fuchs, Fuchs, Hosp, and Jenkins (2001a); Fuchs, Fuchs, and Maxwell (1988); Schatschneider (2006); Speece and Case (2001); Gersten, Dimino, and Jayanthi (2008); Baker, Gersten, Haager, and Dingle (2006).

26. Fuchs et al. (2004); Compton et al. (2006)



Kindergarten

- Screening batteries should include measures that assess (p.14):
 - Letter Knowledge
 - Phonemic Awareness
 - Language



Grade 1

- BOY Screening batteries should include measures that assess (p.14):
 - Phonemic Awareness
 - Decoding
 - Word Identification
 - Text Reading



Grade 1

- MOY Screening batteries should include (p.14):
 - Decoding
 - Word Identification
 - Text Reading (accuracy and fluency)



Grade 2 and above

- Screening batteries should include measures that assess (p.14):
 - Word Reading
 - Passage Reading (accuracy, fluency, and comprehension)



Technical Characteristics to Consider

1. Time
2. Cost
3. Reliability
4. Validity
5. Classification Accuracy
6. Are the benchmarks meaningful



Reliability of the Screening Measure

- The extent to which the measurements of a test remain ***consistent***
- ***Does the test measure achievement the same way each time it is used under the same conditions?***
- Usually reported as internal consistency reliability or Cronbach's alpha and test-retest reliability
- Should be at least 0.70 or greater (Gersten et al, 2008)
- Reliability statistics are available in the publisher's technical manual, publisher's website, the National Center on Progress Monitoring and Response to Intervention

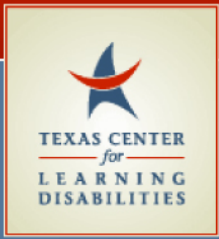


Validity of the Screening Measure

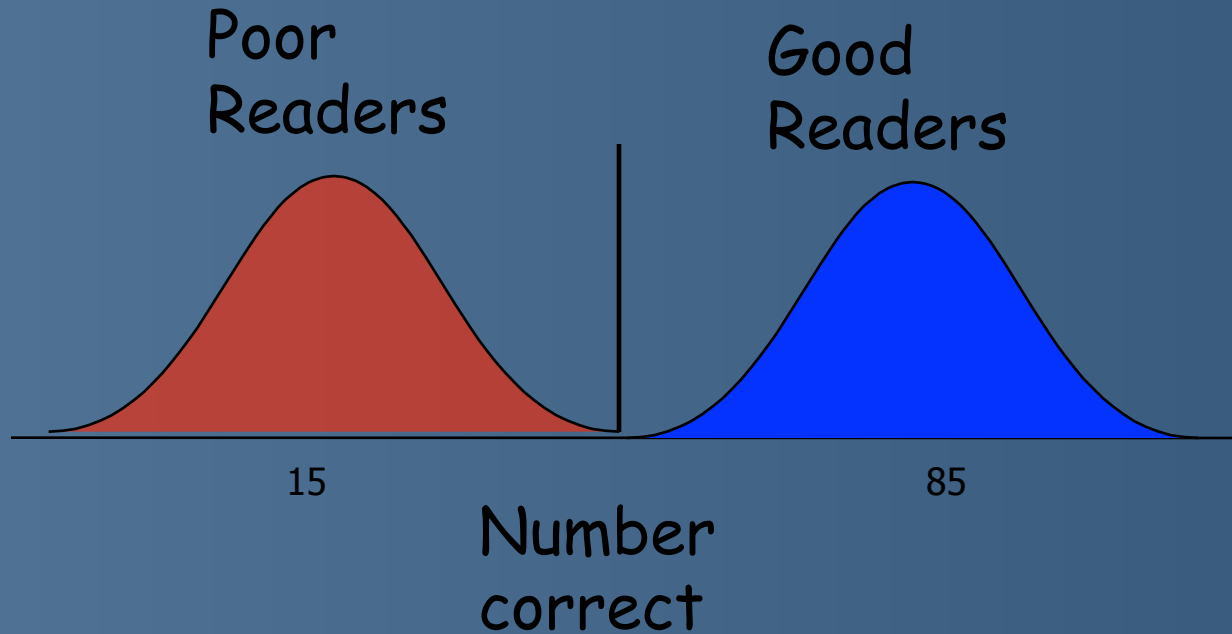
Predictive Validity: “an index of how well the measure provides accurate information on future reading performance of students”

(p. 14)

- Are scores on the screener highly correlated with scores on the end of year assessment (outcome)?
- Predictive validity should be equal to or greater than 0.60 (Gersten et al, 2008)



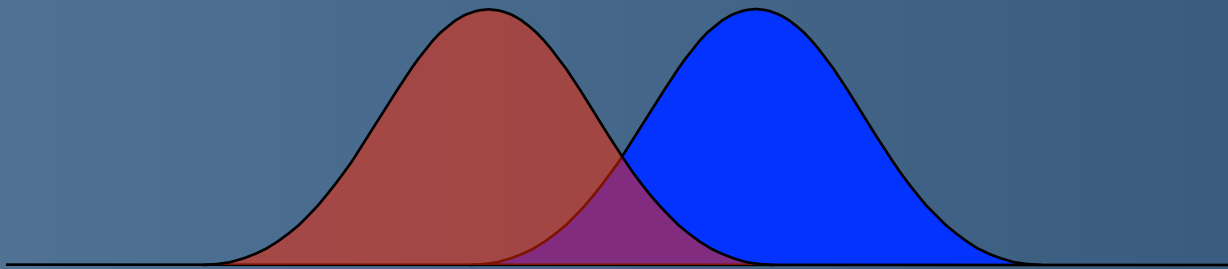
Classification Accuracy: The Ultimate Screen



Courtesy Hugh Catts



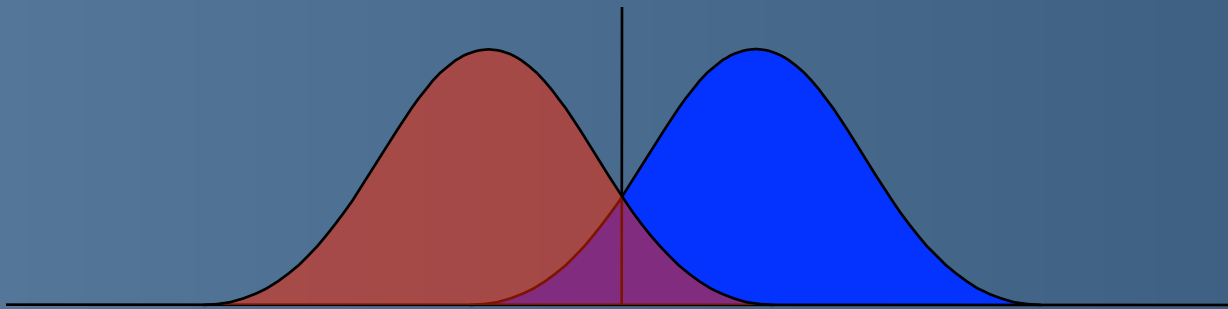
Overlapping Distributions



Courtesy Hugh Catts



Overlapping Distributions

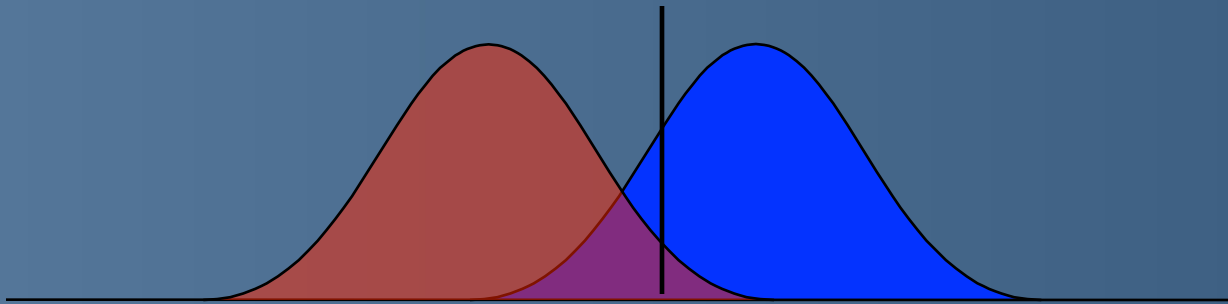


| | |
|----------|----------|
| TP 80 | FP 20 |
| FN 20 | TN 80 |

Courtesy Hugh Catts

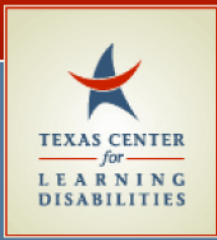


Overlapping Distributions



| | |
|----------|----------|
| TP 90 | FP 30 |
| FN 10 | TN 70 |

Courtesy Hugh Catts



Tier 1 – Primary Prevention: Universal Screening for Possible Reading Risk

| Grade | PM Probe | Cut-Off |
|--------------|-----------------------------|--|
| Kindergarten | Letter Sound Fluency | < 10 Letters/minute |
| Grade 1 | Word Identification Fluency | < 15 words on list/minute |
| Grade 2 | Passage Reading Fluency | < 15 words in text/minute |
| Grade 3 | Passage Reading Fluency | < 50 words in text/minute |
| Grade 4 | Maze Fluency | < 10 maze replacements/ 2.5 minutes |
| Grade 5 | Maze Fluency | < 15 maze replacements/ 2.5 minutes |
| Grade 6 | Maze Fluency | < 20 maze replacements/ 2.5 minutes |



Tier 1 – Primary Prevention: Confirming Risk Status with PM

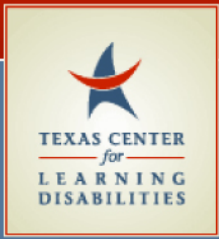
- Benchmark = Final Status Method:
 - Compares students' test scores to a criterion that may represent a norm referenced score or a criterion-referenced benchmark
- Growth = Slope-Discrepancy Method:
 - Compares students' learning rates (slopes) to the average rate of learning for a reference group (same grade peers from a class, district, state, or nation)
- Combo = Dual-Discrepancy Method:
 - Compares both students' rate or growth and level of achievement to the reference group

See Barth, et al (2008)



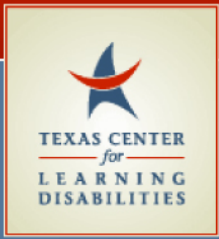
Tier 1 – Primary Prevention: Confirming Risk Status with PM

| Grade | Inadequate Reading Slope |
|--------------|---------------------------------|
| Kindergarten | < 1 (LSF) |
| Grade 1 | < 1.8 (WIF) |
| Grade 2 | < 1 (PRF) |
| Grade 3 | < 0.75 (PRF) |
| Grade 4 | < 0.25 (Maze) |
| Grade 5 | < 0.25 (Maze) |
| Grade 6 | < 0.25 (Maze) |



Roadblocks and Suggested Approaches

- Roadblock 1.1: “It is too hard to establish district-specific benchmarks” (p. 15)
 - National benchmarks



Roadblocks and Suggested Approaches

- Roadblock 1.2: “Universal screening falsely identifies too many students” (p. 15).
 - Adjust the cut-point



Roadblocks and Suggested Approaches

- Roadblock 1.3: “Some students might get “stuck” in a particular tier” (p. 15).
 - If teachers are using data to modify the type and intensity of intervention, growth for some students will be slower
 - Tiers are not standardized, one size fits all interventions with lock-step groupings of students

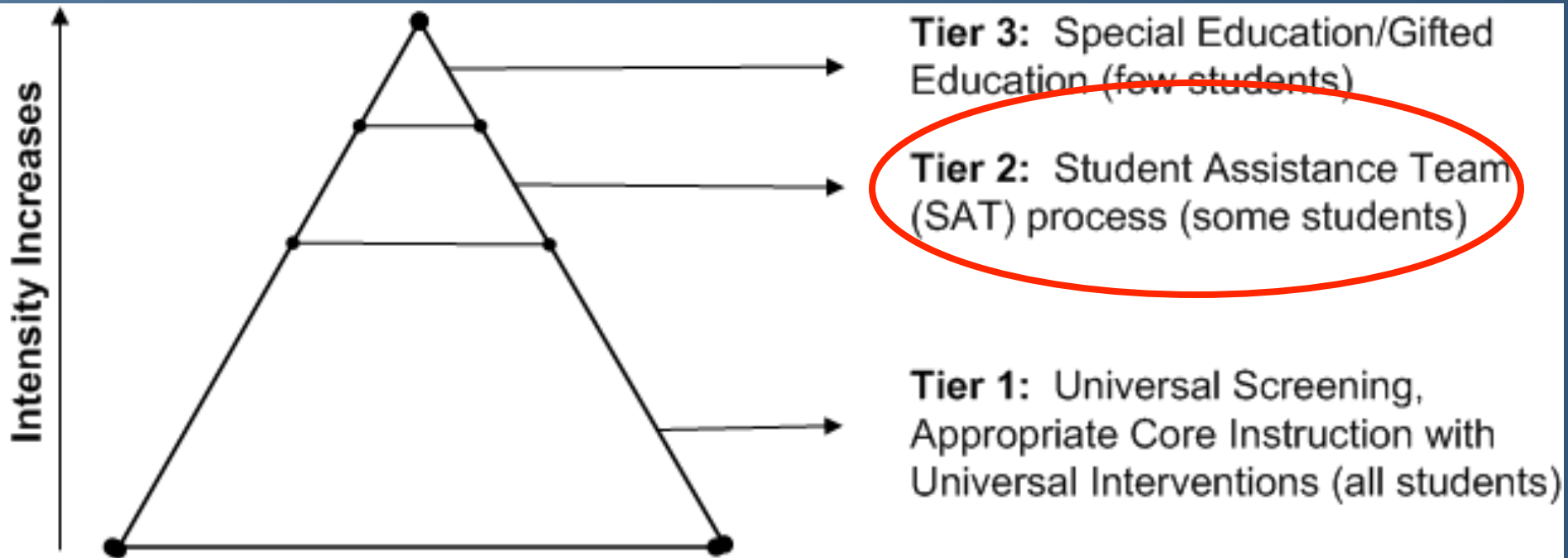


Roadblocks and Suggested Approaches

- Roadblock 1.4: “Some teachers place students in tutoring when they are only one point below benchmark” (p. 16).
 - No screener or progress monitoring measure perfectly classifies students
 - No screener or progress monitoring measure is perfectly reliable and valid
 - Utilize a confidence interval for each benchmark score



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Recommendation 4.

- Monitor the progress of students receiving Tier 2 or Tier 3 intervention at least once a month.



Progress Monitoring

- Progress monitoring is a practice used to assess a students' response to additional support at more frequent intervals between universal screenings.



Recommendation 4.

- The data should be used to determine whether students require increasingly intense intervention.
- For students who do not make sufficient progress, school-wide teams should design a Tier 3 intervention plan.

See Page 24



How to carry out regular progress monitoring

1. "Monitor progress of Tier 2 students on a regular basis using grade-appropriate measures" (p. 24).
 - PM represents one way to assess students' retention of material taught and their path to skill proficiency
 - Monitor progress at least 8 times during the school year, but can be done more frequently.
 - Use measures that are efficient, reliable, and valid



Table 5. Progress monitoring measures in grades K-2

| GRADE | Measure |
|--------------|--|
| Kindergarten | Phonemic Awareness |
| Grade 1 | Fluency Word Recognition Nonword (Psuedo Word) Reading Oral Reading Fluency (Connected Text) |
| Grade 2 | Fluent Word Recognition Oral Reading Fluency |

Source. Author's compilation based on information described in text.
See page 25.

Foundational
Psychometric
Standards

Progress Monitoring Standards

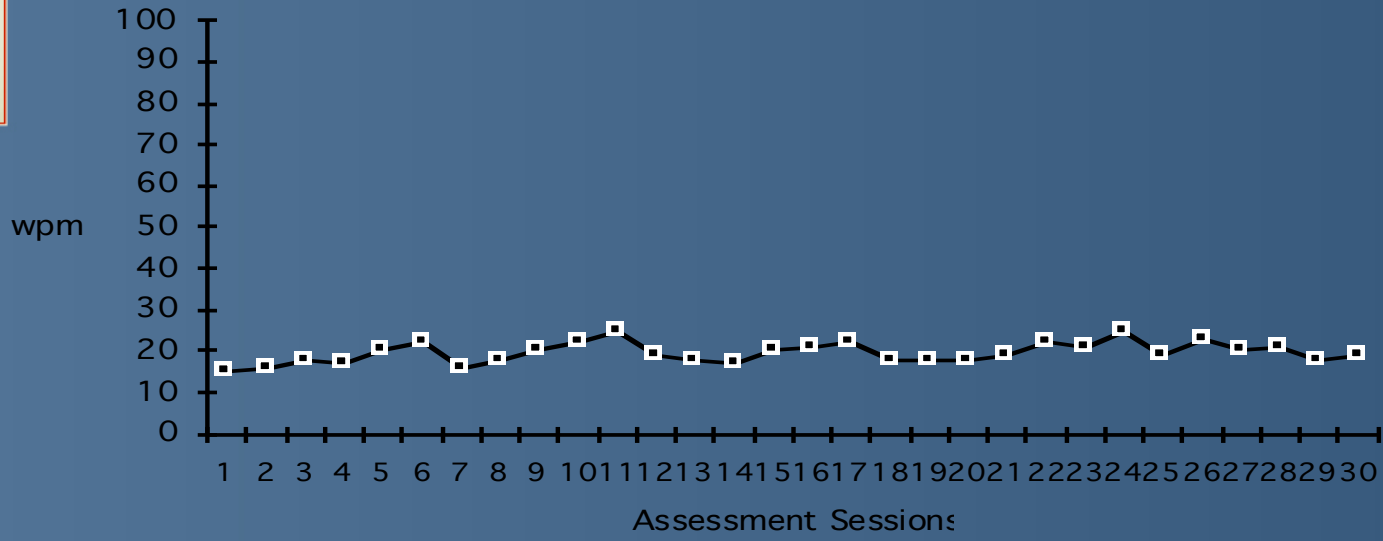
Tools Area

| Tools Area | | Foundational Psychometric Standards | | Progress Monitoring Standards | | | | |
|-----------------------------|--------------------|-------------------------------------|----------|-------------------------------|----------------------------------|----------------|--|--------------------------------|
| | | Reliability | Validity | Alternate Forms | Sensitive to Student Improvement | AYP Benchmarks | Improving Student Learning or Teacher Planning | Rates of Improvement Specified |
| Accelerated Math and Reader | Math | ● | ● | ● | ● | ● | ● | ● |
| | Reading | ○ | ● | ● | ● | ● | ● | ● |
| AIMSweb | Early Literacy | ● | ● | ● | ● | ● | ● | ● |
| | Early Numeracy | ● | ● | ● | ● | ● | ○ | ● |
| | Math | ● | ● | ● | ○ | ● | ○ | ● |
| | Maze | ● | ● | ● | ● | ● | ● | ● |
| | Reading | ● | ● | ● | ● | ● | ● | ● |
| | Spelling | ● | ● | ○ | ● | ● | ● | ● |
| | Written Expression | ● | ○ | ● | ● | ● | ● | ● |



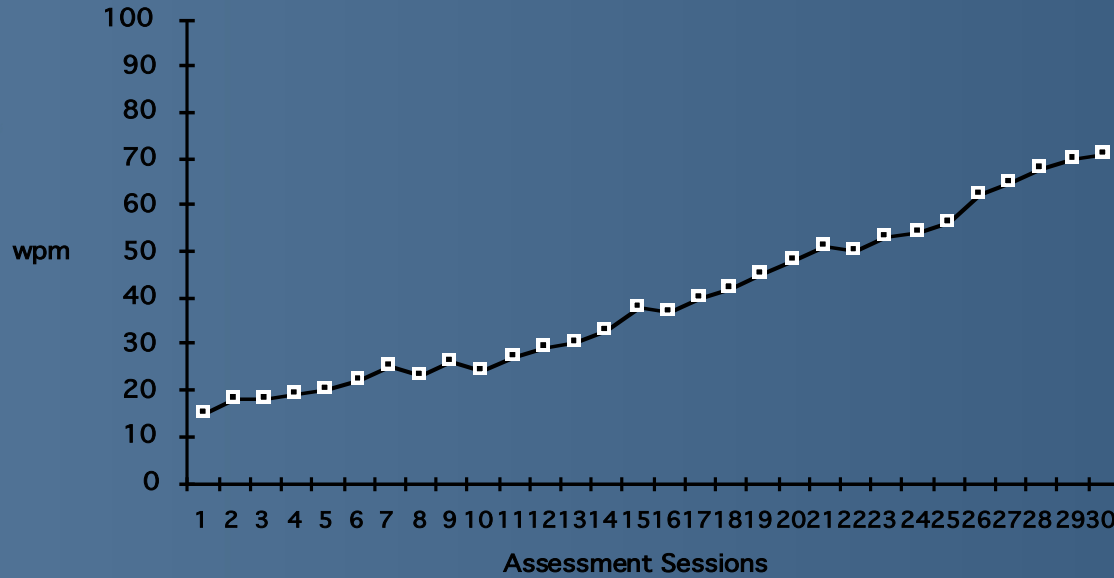
How to carry out regular progress monitoring

1. "Monitor progress of Tier 2 students on a regular basis using grade-appropriate measures" (p.24).
2. **"While providing Tier 2 instruction, use progress monitoring data to identify students needing additional instruction" (p.25).**



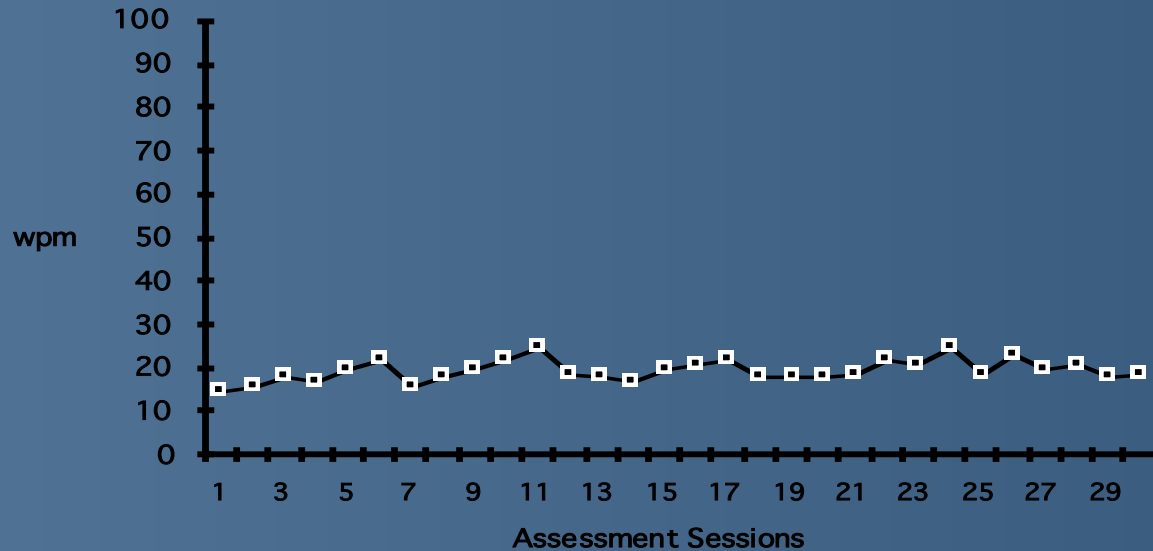
Description: Inadequate response to quality instruction.

This student has responded poorly to the intervention strategy. After an initial adaptation period of five days, the teacher implemented the strategy as designed for the duration of the intervention period. In spite of this assistance, the student's rate of learning throughout the period has been slow. This response-to-instruction pattern indicates that the student's lack of progress is more likely the result of learning difficulties than a lack of effective instruction. Specially designed instruction is likely needed for this student to acquire and retain new information (courtesy Joe Kovalski)



Description: Student responds well to quality instruction.

This student responded well to the intervention strategy. After an initial adaptation period of six days, the teacher implemented the strategy as designed for the duration of the intervention period. With this assistance, the student's rate of learning throughout the period was steady and in a positive direction. This response-to-instruction pattern indicates that the student's difficulties are more likely the result of a lack of effective instruction than a disability. This student does not display a high degree of need for special education because he can demonstrate acquisition and retention with adapted instruction in the regular classroom (courtesy Joe Kovaleski).



Description: Response to instruction cannot be determined.

This student has responded poorly during the intervention strategy. However, in spite of support, the intervention was not implemented as planned throughout the intervention period. Consequently, it cannot be determined whether the student's lack of progress are more likely the result of learning difficulties or a lack of effective instruction. Another period of support is needed to assist the teacher to implement the strategy as designed in order to make a conclusion about this issue (courtesy Joe Kovalski).



How to carry out regular progress monitoring

1. "Monitor progress of Tier 2 students on a regular basis using grade-appropriate measures" (p.24).
2. "While providing Tier 2 instruction, use progress monitoring data to identify students needing additional instruction" (p.25).
3. **"Consider using progress monitoring data to regroup Tier 2 students approximately every six weeks" (p. 25).**



Roadblocks and Suggested Approaches

- Roadblock 4.1: “Students within classes are at very different levels for Tier 2 intervention” (p. 25).
 - Consider grouping students across classes



Roadblocks and Suggested Approaches

- Roadblock 4.2: “There is insufficient time for teachers to implement progress monitoring” (p. 25).
 - Consider using paraprofessionals, parents, volunteers, or other school staff



More information

- www.nasdse.org
- www.centeroninstruction.org
- www.rtinetwork.org
- www.iris.peabody.vanderbilt.edu
- www4.scoe.net/rti/programs.cfm
- www.rti4success.org/
- www.rtinetwork.org
- www.ped.state.nm.us/RTI.html



Gersten, R., Baker, S.K., Shanahan, T., Linan-Thompson, S., Collins, P., & Scarcella, R. (2007). *Effective Literacy and English Language Instruction for English Learners in the Elementary Grades: A Practice Guide (NCEE 2007-4011)*. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from <http://ies.ed.gov/ncee/wwc/publications/practiceguides>



Thank you!

- Evaluation
- Online Q&A for two weeks

[https://surveystation.austin.utexas.edu//
TakeSurvey.aspx?SurveyID=76M14911](https://surveystation.austin.utexas.edu//TakeSurvey.aspx?SurveyID=76M14911)