

## Multi-Tiered Reading Instruction: Integrating Prevention and Remediation through Response to Instruction (RTI)

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## Why is Reading a Problem? (RAND Reading Report)

- Demand for literacy is high and getting higher
- Increased accountability for results at state and now national level: high stakes testing
- Large Federal investment in education and research, especially beginning reading
- Minority achievement gap large and persistent-associated with poverty

## The Context for NCLB and Reading First

- 37% of fourth graders read below "Basic" level and much higher in minority groups
- Over 60% of African-American and Latino children; over 70% in some urban school districts
- Most recent trend analysis showed improvement in 9 year olds, but not 13 and 17 year olds; included significant gains in minorities

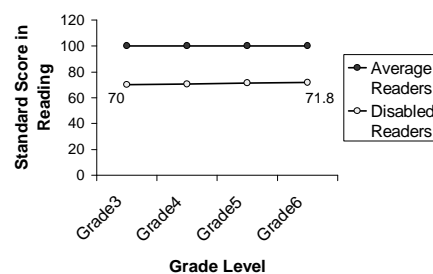
## Is Compensatory Education Effective?

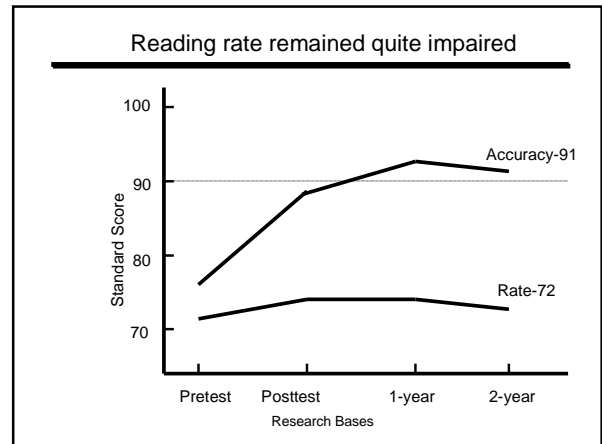
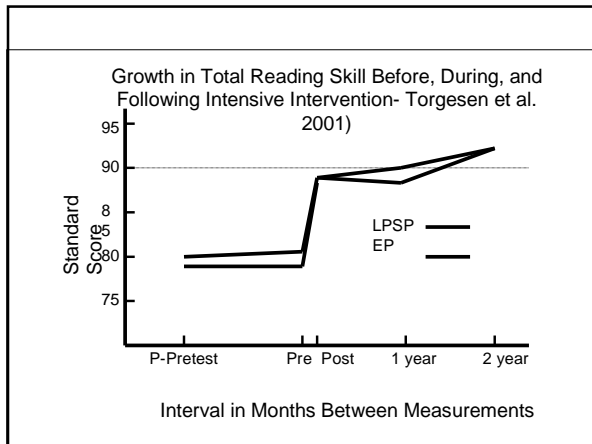
- Insufficient accountability *for results* in Title 1 programs: overall effect size of .11 (very small: Borman & D'Agostino, 2006)
- When effective, limited to school reform models, whole school curriculum reform, and small group tutorials
- NCLB now requires specific forms of accountability for results and introduces Reading First as an effort to prevent reading problems

## Why prevent? Special education alone can't fix reading problems

- Number of children identified as LD in special education has increased dramatically since 1975
- Represents about half of the 6.2M children identified for special education- 6% of all children in schools
- 80- 90% identified for reading disabilities (up to 40% of all in special ed)
- Number of students is too large to implement intensive intervention

Change in Reading Skill for Children with  
Reading Disabilities in Special Ed : .04  
Standard Deviations a Year





**Remediation is an incomplete solution!**

Reading rate is limited because the proportion of words in grade level passages that children can read “by sight” is less than for average readers (Torgesen et al., 2001).

Fluency depends on practice (repeated exposure to letter patterns).

**How do you close the gap when the student is already 3- 5 years behind?**

**Early Intervention is Possible**

- Risk characteristics present in Kindergarten and G1
- Letter sound knowledge, phonological awareness, oral language development
- Assess all children, monitor progress, and INTERVENE- first in the classroom and then through supplemental instruction

**Early Intervention is Effective**

➤ Prevention studies in reading commonly show that 70- 90% of at risk children (bottom 20%) in K- 2 can learn to read in average range with gains in accuracy, fluency, and comprehension (Fletcher et al., 2007)

**Early Intervention Doesn't Work for Every Student**

- Even the very best prevention programs leave behind 2-6% of the school population
- Need to reduce the numbers in order to effectively implement remedial programs
- **How do we link prevention and remediation?**

## Linking Prevention and Remediation: A 3-Tier Model

If progress is inadequate, move to next level.



### Tier 1: Primary Intervention

Enhanced general education classroom instruction for all students.

### Tier 2: Secondary Intervention

More intense intervention in general education, usually in small groups.

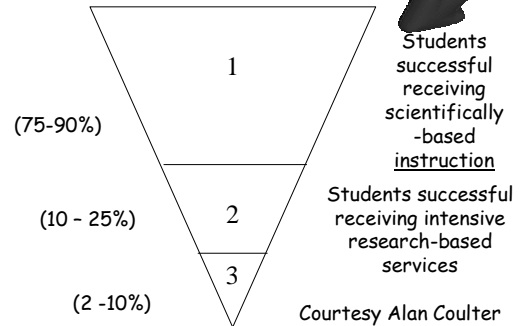
### Tier 3: Tertiary Intervention

Intervention increases in intensity and duration. Child could be considered for special education

<http://www.texasreading.org/3tier/>

Note: No Program Titles are listed

How many at each tier?



## Decisions

- How to screen and monitor progress?
- Criteria for inadequate response
- How to target professional development?
- Standard protocol vs. problem solving model
- How many tiers?
- Role of special education and assessment professionals
- What constitutes the comprehensive evaluation?

## Screening

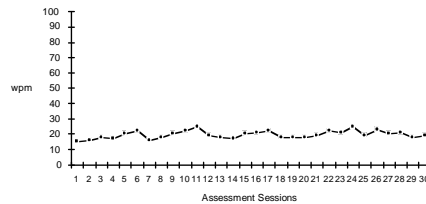
- The first step is to KNOW who is at risk- benchmark all students 2-3 times a year
- Rapid identification of children who are at- risk for reading difficulties
- Assessment must take into account teacher time
- More accurate to identify students are not at risk so more teacher time for those at risk
- Screen to identify those least at risk and assess those who do not know the concepts on the screen
- Can be done at baseline with progress monitoring tool, norm referenced test, or specially designed screening tool

## Progress Monitoring

The second step is to monitor progress of those at risk- are students learning at rates that demonstrate adequate progress?

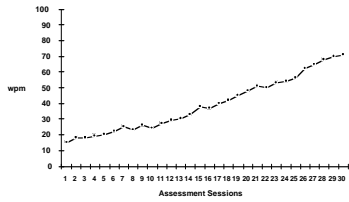
Short, probe assessments of reading fluency, math computations, and problem behaviors most widely utilized to monitor progress and signal the need for more intense instruction

<http://www.studentprogress.org/>



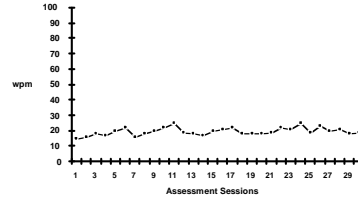
**Description: Inadequate response to quality instruction.**

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 Kovaleski)



**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 Kovaleski).

## Criteria for Inadequate Response

- Can be norm referenced or criterion referenced benchmark
- Benchmarks can be "national" or local
- End point, slope, or both?
- Key is to account for change- studies show that criteria based on rate of change and final end point (double deficit- slope and end point)
- May be resource driven

## Professional Development

- RTI is a system wide change- must build gradually and scale- may take several years
- Break down the intervention silos
- PD must target the general education teacher, esp. in reading and behavior
- Major obstacle: How do you organize PD if the district has multiple core reading and supplemental programs and interventions are tied to silos?
- What is the link between classroom and supplemental intervention?
- District-wide literacy plan that coordinates instruction and focuses PD around a small number of core and supplemental programs

## Standard Protocol vs. Problem Solving Models

- RTI has 2 instructional origins- reading (standard protocol) and behavior (problem solving)
- Ultimately both require the use of data to drive decision making
- Reading usually evolves into a standard protocol because of the numbers

## Problem Solving Model

- Team- based decision- making
- Define the problem, generate alternative strategies, build a consensus, help the teacher implement, monitor progress, reconvene
- If your school has a shared decision making process, you have a problem solving approach- just add some data!

## Standard Protocol

- Data from screening and progress monitoring used to route student into interventions of increasing intensity
- Instructional strategies tied to different indicators of student need based on data
- Differentiation occurs in grouping and selection of strategies (usually severity of difficulties)

## How Many Tiers?

- No set number, but 3 is a minimum and its easy to have too many
- Often hinges on decisions about role of special education- a tier or a separate service
- In some implementations intensive intervention occurs as the third tier before special education is formally invoked

## Special Education

- Special education **MUST BE** part of the continuum of services. IDEA is reserved for students with instructional needs that are so intense that they cannot be provided in general education (or the student needs the protections of IDEA), but special education should help facilitate disability prevention
- Eligibility linked to outcomes of previous tiers
- In a RTI model, itinerant professionals change roles from experts on placement to experts on monitoring instructional response and determining intervention strategies

## Comprehensive Evaluation

- IDEA 2004 requires a comprehensive evaluation
- Allows more flexibility- little evidence that supports extensive assessments of IQ, cognitive skills, and processes: focus on academic strengths and weaknesses
- In a RTI model, student comes to interdisciplinary team with data- goal is determine if special ed is best intervention
- More emphasis on writing an effective IEP
- Progress monitoring continues

## Implementing the 3-tier model of reading

How to start: Universal screening, progress monitoring, professional development for classroom teachers, supplemental instruction, intensive instruction

Focus is always first on the classroom and then on supplemental instruction and intensive intervention

Screening and progress monitoring must be in place because instructional decisions are driven by data on student performance

## Tier 1: Enhanced core reading instruction

- Primary model: begins in the classroom with professional development, assessment, and better materials
- Goal is differentiated instruction and monitoring response to instruction through comprehensive content and classroom management
- Implemented by classroom teacher with a 90' core and multiple grouping format

## Primary: Core Reading Instruction (Sharon Vaughn)

<b>Focus</b>	For all students
<b>Program</b>	Scientific-based reading instruction and curriculum emphasizing the five critical elements of beginning reading
<b>Grouping</b>	Flexible grouping
<b>Time</b>	90 minutes or more per day
<b>Assessment</b>	Screening assessment at beginning, middle, and end of the academic year
<b>Interventionist</b>	General education teacher
<b>Setting</b>	General education classroom

## Content: 1998 NRC Report 2000 NRP Report

- **Consensus documents**
  - **Instruction can prevent reading difficulties**
  - **Emphasized integration of:**
    - Explicit alphabetic instruction: **word recognition**
    - Reading for meaning: **comprehension**
    - Active engagement: **fluency**
- In an integrated, comprehensive approach to reading instruction**

## NRC Report

**It is really the integration of those three, rather than the balance between phonics and whole language, that characterized our recommendations.**

----- **Snow, 1998**

## Reading Instruction Must be Integrated from KG- G12

- If a critical component is missing, students who at risk will not develop the component
- Success and failure in reading are opposite sides of the same coin- it's the same theory, not two theories, one for success and another for failure
- Instruction is the key

(see Simmons and Kame'enui Consumer's Guide to Evaluating Core Reading Program:  
[http://reading.uoregon.edu/appendices/con\\_guide\\_3.1.03.doc](http://reading.uoregon.edu/appendices/con_guide_3.1.03.doc))

## Tier 2: Supplemental Instruction

- Typically homogeneous small group pull out instruction, but can represent additional dose in the classroom by a person other than the classroom teacher
- Adds to instructional time (typically 20- 40') and supports classroom instruction
- Progress monitoring essential to gauge level of intensity and adjust instructional emphasis- if child is progressing, why put a time limit?
- Many approaches may work

## Secondary: Intervention (Sharon Vaughn)

<b>Focus</b>	For students identified as at-risk for reading difficulties, and who have not responded to Primary intervention efforts
<b>Program</b>	Specialized, research-based interventions
<b>Grouping</b>	Homogeneous small group or one-on-one instruction
<b>Time</b>	20-40 minutes per day in addition to 90 minutes of core reading instruction
<b>Assessment</b>	Progress monitoring twice a month on target skill(s) To ensure adequate progress and learning
<b>Interventionist</b>	Personnel determined by the school (e.g., classroom teacher, a specialized reading teacher, an external interventionist)
<b>Setting</b>	Appropriate setting designated by the school

## Converging Evidence

- Small-group intervention is just as effective as 1:1 intervention (Elbaum et al., 2000)
- In reading, Tier 2 content is the same as for effective classroom intervention: explicit instruction in the alphabetic principle, reading for meaning and opportunities to learn- emphasis shifts, but you get what you teach

www.fcrr.org

## Tier 3: Intense Intervention

- Can be delivered in general or special education; the place is not important
- Goal is to dramatically increase intensity and differentiation through more individualization
- Content may be significantly different from first 2 levels
- More individualization and more time required

## Tertiary: Intensive Intervention (Sharon Vaughn)

<b>Focus</b>	For students with marked difficulties in reading or reading disabilities and who have not responded adequately to Primary and Secondary efforts
<b>Program</b>	Sustained, intensive, scientifically based reading program(s)
<b>Grouping</b>	Homogeneous small group or one-on-one instruction
<b>Time</b>	45-minutes or longer sessions per day tailored to students' individual needs
<b>Assessment</b>	Progress monitoring twice a month on target skill to ensure adequate progress and learning
<b>Interventionist</b>	Personnel determined by the school (e.g., a classroom teacher, a specialized reading teacher, an external interventionist)
<b>Setting</b>	Appropriate setting designated by the school

## IDEA 2004: RTI or Discrepancy?

- (2)(i) The child does not make sufficient progress to meet age or State-approved grade-level standards in one or more of the [8 domains of achievement] when using a process based on the child's response to scientific, research-based intervention; or
- (ii) The child exhibits a pattern of strengths and weaknesses in performance, achievement, or both, relative to age, State-approved grade-level standards, or intellectual development, that is determined by the group to be relevant to the identification of a specific learning disability, using appropriate assessments, consistent with §§300.304 and 300.305;

## Who is LD?

- The student who does not respond to quality instruction: hard to teach, not unable to learn
- Discrepancy relative to the expectation that ALL children can learn
- Requires closer integration of general education and special education
- *One system, not two- all students are general education students first!*

## IDEA 2004: Inadequate instruction is an exclusion

To ensure that underachievement...is not due to lack of appropriate instruction in reading or math, the group must consider, as part of the evaluation described in §§300.304 through 300.306—

- (1) Data that demonstrate that prior to, or as a part of, the referral process, the child was provided appropriate instruction in regular education settings, delivered by qualified personnel; and
- (2) Data-based documentation of repeated assessments of achievement at reasonable intervals, reflecting formal assessment of student progress during instruction, which was provided to the child's parents.

## A new IDEA?

Traditional Definition of Dyslexia

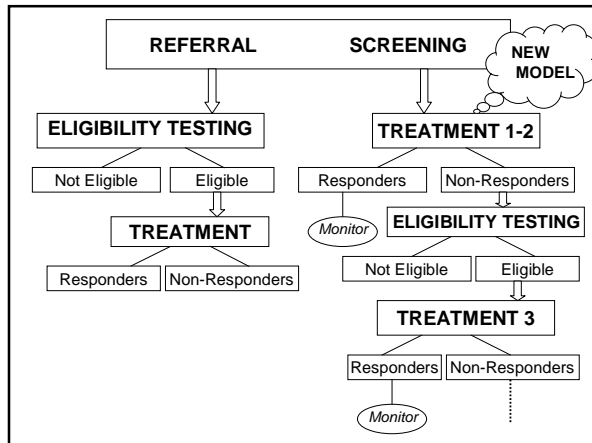
**A disorder manifested by difficulties in learning to read despite conventional instruction, adequate intelligence, and socio-economic opportunity. It is dependent upon fundamental cognitive disabilities which are frequently of constitutional origin.**

Critchley, 1970, p.11

## IDA DEFINITION OF DYSLEXIA

**Dyslexia** is a specific learning disability that is neurological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede the growth of vocabulary and background knowledge.

Adopted by the Board of Directors: November 12, 2002



## What is a Struggling Reader?

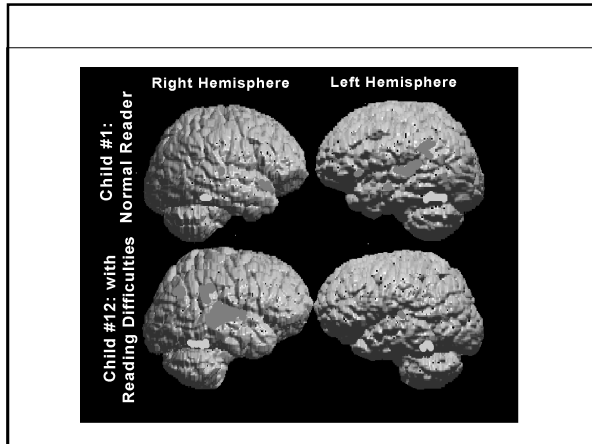
- Children are not born with reading problems
- Reading difficulties, including those identified with LD and dyslexia, as well as those poorly prepared to learn to read, are interactions of biological and environmental factors
- We consistently discount the role of instruction as a cause of poor reading, looking instead to intrinsic factors (bad brain) or extrinsic factors (bad environment, wrong language)

## Genetic Factors in Reading Disability

- 8 loci- sites on chromosomes 1, 2, 6, 15: 6 and 15 replicated in 3- 5 labs
- Little evidence for genes specific to poor reading- “generalist genes”
- 50- 80% of the variability explained by genetic factors
- Brains (and environments) make a person at-risk, not destined to fail

## What's Happening in the Reading Brain?





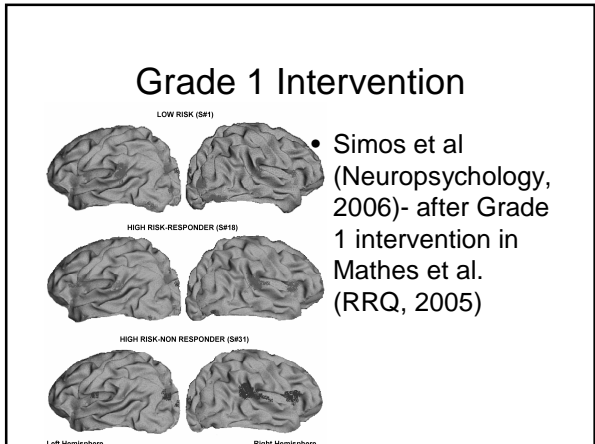
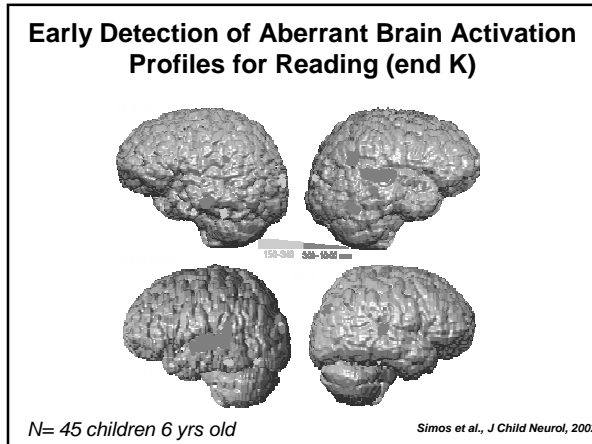
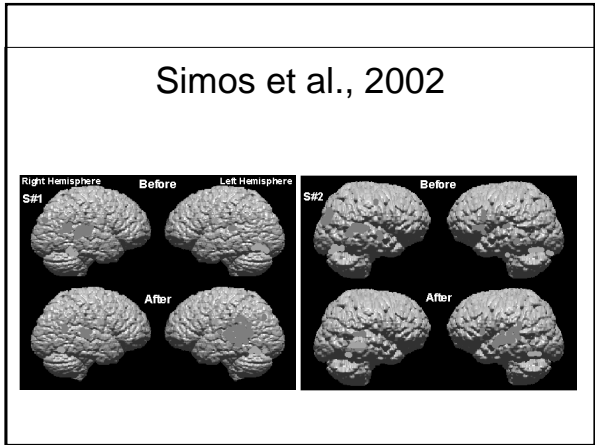
### Neural Response to Intervention

**Does the pattern of brain activation change in response to intervention?**

8 children with severe dyslexia  
 8 week intense phonologically- based intervention  
 (2 hours a day= up to 80 hours of instruction)  
 Simos et al., *Neurology*, 2002

### Demographic Information

Child	Gender	Age (years/mo)	WJ-III pre (%)	WJ-III post (%)	IQ	Medication
1	M	15	13	55	103	Adderal
2	M	10	2	59	95	Ritalin
3	M	10	2	38	110	Ritalin
4	F	8	3	55	105	Ritalin
5	F	7	2	50	110	Ritalin
6	M	7	18	60	101	—
7	M	11	1	38	98	Ritalin
8	M	17	1	45	102	—



## Conclusions

- Classroom and supplemental interventions appear effective in teaching at-risk children to read
- Affect a broad range of reading domains- word recognition, fluency, comprehension
- Few students left behind; know who needs intensive intervention
- Development of reading skills dependent on establishment of neural network that is malleable, but not all brains (or instructional approaches) are the same
- **How do we help inadequate responders?**

## Advantages of RTI models

1. Focus shifts from who is eligible to concerns about providing effective instruction: breaks down the silos
2. Identification is not dependent on teacher referral
3. Allows placement of student in intervention immediately rather than after time-consuming and often delayed expensive assessments.

## Advantages of RTI models

4. Student's referral includes data indicating how the student has responded to various interventions
5. Opportunity to learn exclusion measured, not surmised
6. Promotes unity of special ed and general ed- a seamless system: Lines up NCLB and IDEA 2004

## NCLB and IDEA 2004 Create a Unified System for Special Ed and General Ed

Allow educators and parents to focus on results regardless of the program-- special education, title 1, etc

Students in special education DO NOT lose protections in a result-oriented system

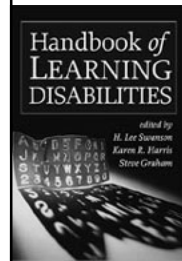
Parents must be informed of progress: the best example of due process

## We Have the Tools!

There is a wealth of evidence-based programs and strategies for students poorly prepared for academic learning and with or at-risk for LD (Swanson et al., Handbook of LD, Guilford, 2003; Fletcher et al., Guilford, 2007)

**We don't apply the tools in schools!**

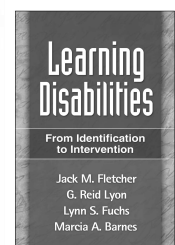
Process becomes less important if there is accountability for results: Prevent disabilities through effective instruction



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