New Approaches to Identification and Treatment of Learning Disabilities: The Importance of Response to Intervention

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IDEA 2004

1. States cannot require districts to use IQ tests to identify students as LD
2. States are encouraged to implement Response to Intervention models *as one component of LD identification*
3. Students cannot be identified for special education without documentation that low achievement is not due to lack of appropriate instruction
4. *Encourages early intervention services*

Consensus Reports: US Special Education

- Fordham Foundation/ Progressive Policy Institute: Rethinking Special Education (2001)
  www.edexcellence.net/library/special_ed/index.html
- OSEP: Learning Disabilities Summit (2001)
  www.air.org/ldsummit
- National Research Council: Minority Over-Representation in Special Ed (2002)
  http://www.nap.edu/catalog/10128.html
- President's Commission on Excellence in Special Ed (2002)

www.ed.gov/inits/commissionsboards/whspecialeducation/index.html

Response to Intervention is:

- A set of processes for coordinating high quality service delivery in schools
- A multi-tiered, layered instructional approach that prevents problems first, and then brings increasingly intense interventions to students who don’t respond
- Making instructional decisions based on data
- Integrating entitlement programs with general education
- Primary goal: Improving academic and behavioral outcomes for all students by eliminating discrepancies between actual and expected performance

Response to Intervention is Not:

- Just a special education initiative
- Only for students with disabilities
- Only for beginning reading
- Only for non-Title I and non-ESL students
- A way of reducing costs or eliminating special education or the LD category
- This year's summer reform or a short-term implementation based on "RTI in a Box"
- A way to fix schools with weak core instruction

Components of RTI

- Universal, population- based screening and progress monitoring; decision-making based on data to modify instruction
- Implementation of evidence- based interventions in general education, and targeted supplemental and intensive intervention
- A coordinated, seamless system of service-delivery connecting prevention and remediation
- Data that provides information relevant to eligibility for special education
- Parent involvement and team-based decision-making

Key Concepts

- Problem Solving vs. Standard Protocols
- Multi-tiered instructional delivery system
- Early intervention: no “wait to fail”
- Risk vs. Deficit
- Reduction of identification biases
- Continuous progress monitoring
- Focus on student outcomes and the elimination of instructional casualties
- Parental involvement at early stages of intervention

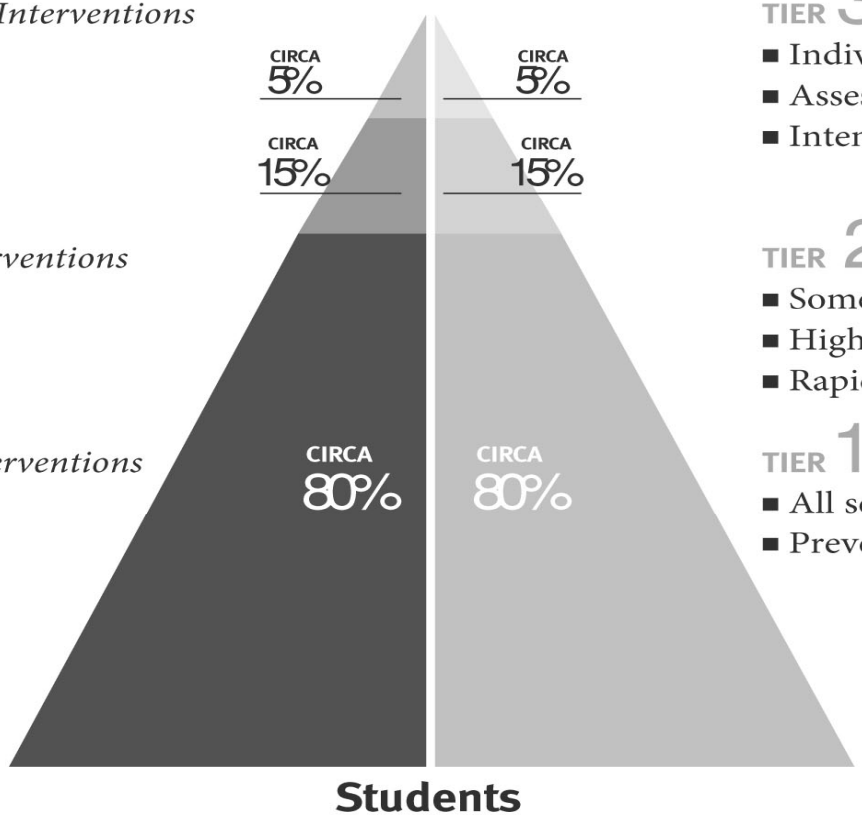
Three Tier Model for Academic and Behavioral Outcomes (NADSDE, 2006)

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

Overview of Research Findings Supporting the Need for RTI

1. Learning disabilities are common and real
2. Status models (e.g., IQ/Achievement discrepancy), lack reliability and validity; testing is not the answer
3. The neural systems are malleable
4. Instructional factors can cause disability
5. Special Education does not close the achievement gap; remediation is not a solution
6. Prevention and early intervention are effective
7. RTI makes the concept of LD valid

Learning Disabilities are Common in Special Education

- 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 US schools
- Number of students is too large to implement intensive intervention
- Dyslexia is the largest single subgroup in special education

Why Care About Reading and Dyslexia?

Special Education Commission: **2/5 children in special ed because they can't read adequately:** 80- 90% of students with LD identified for reading disabilities

Improve reading and all students benefit- reduces LD and reserves sp ed for students who are difficult to teach

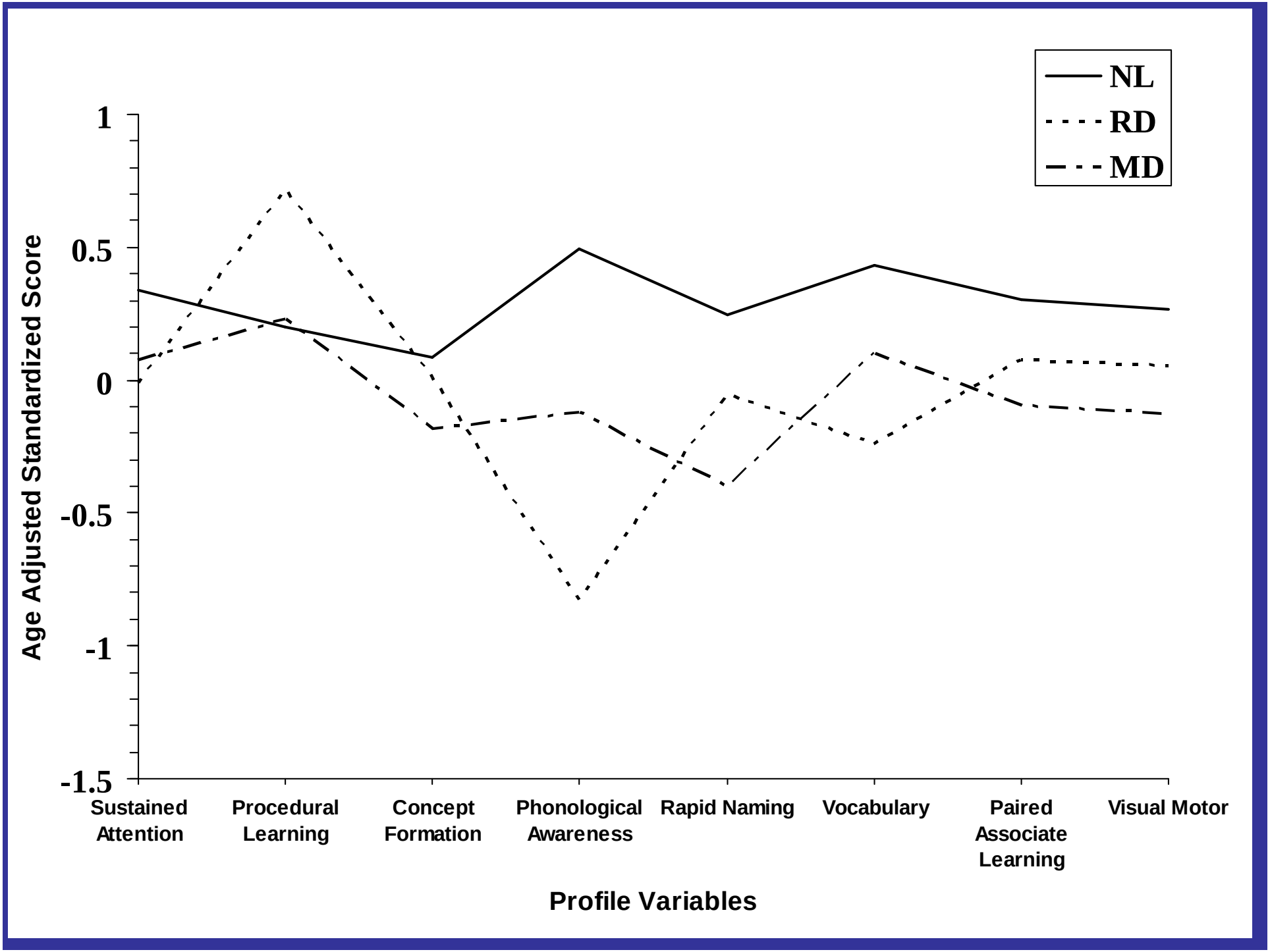
Special Education can't "fix" reading problems; schools won't make AYP and many students won't learn academic skills if the only interventions are remedial

LD is a Valid Classification

Learning disabilities are real! Stands up across definitional variation (doesn't help identify individuals)

Children and adults with different forms of LD can be reliably and validly differentiated from each other, typical achievers, and other disabilities on cognitive correlates, response to intervention, and neural correlates

What happens when we apply these criteria to different classifications?


NL
RD
MD
1
0.5
0
-0.5
-1
-1.5
Age Adjusted Standardized Score
Sustained Attention
Procedural Learning
Concept Formation
Phonological Awareness
Rapid Naming
Vocabulary
Paired Associate Learning
Visual Motor
Profile Variables

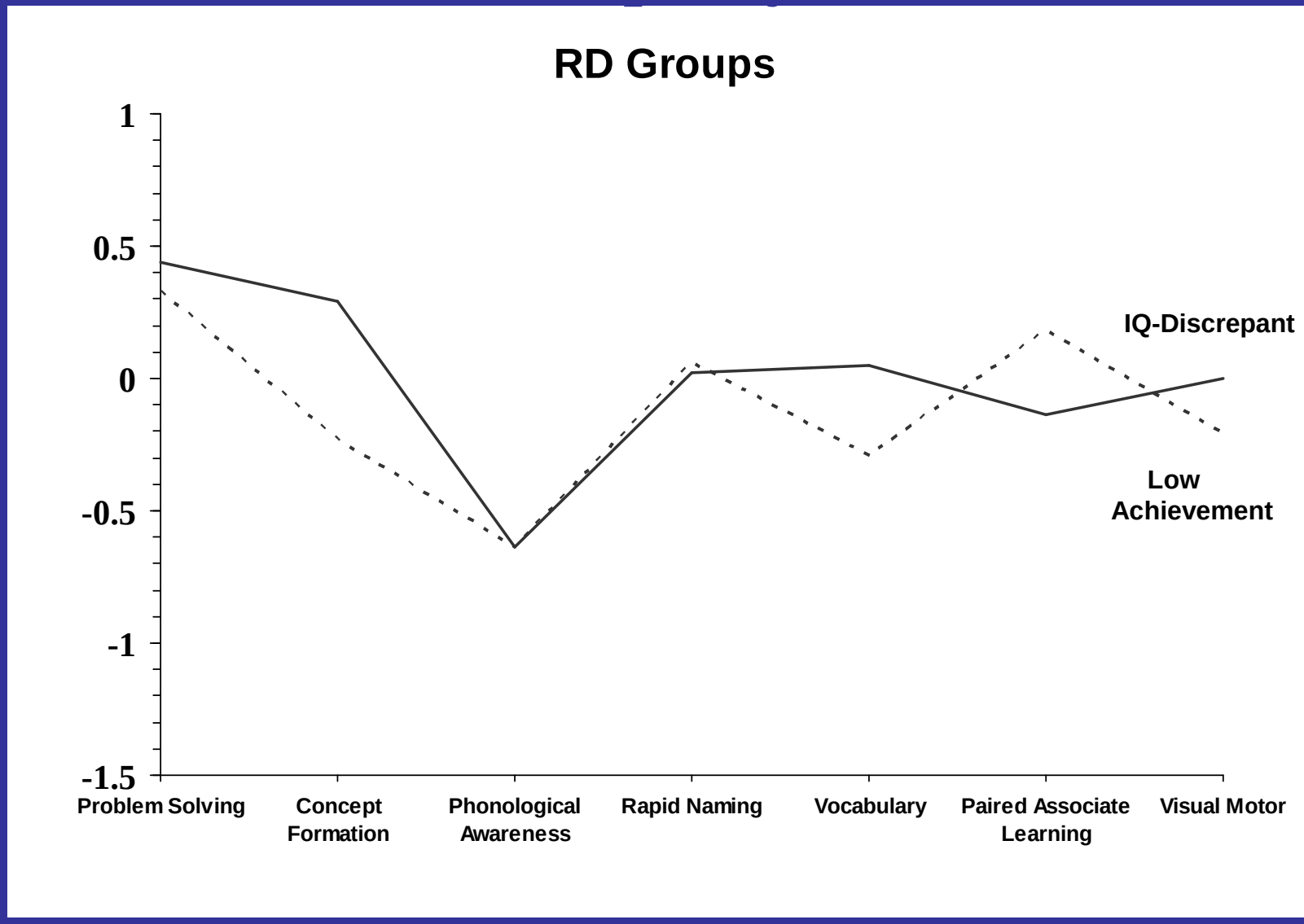
IDEA 2004: RTI or Discrepancy?

- (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;

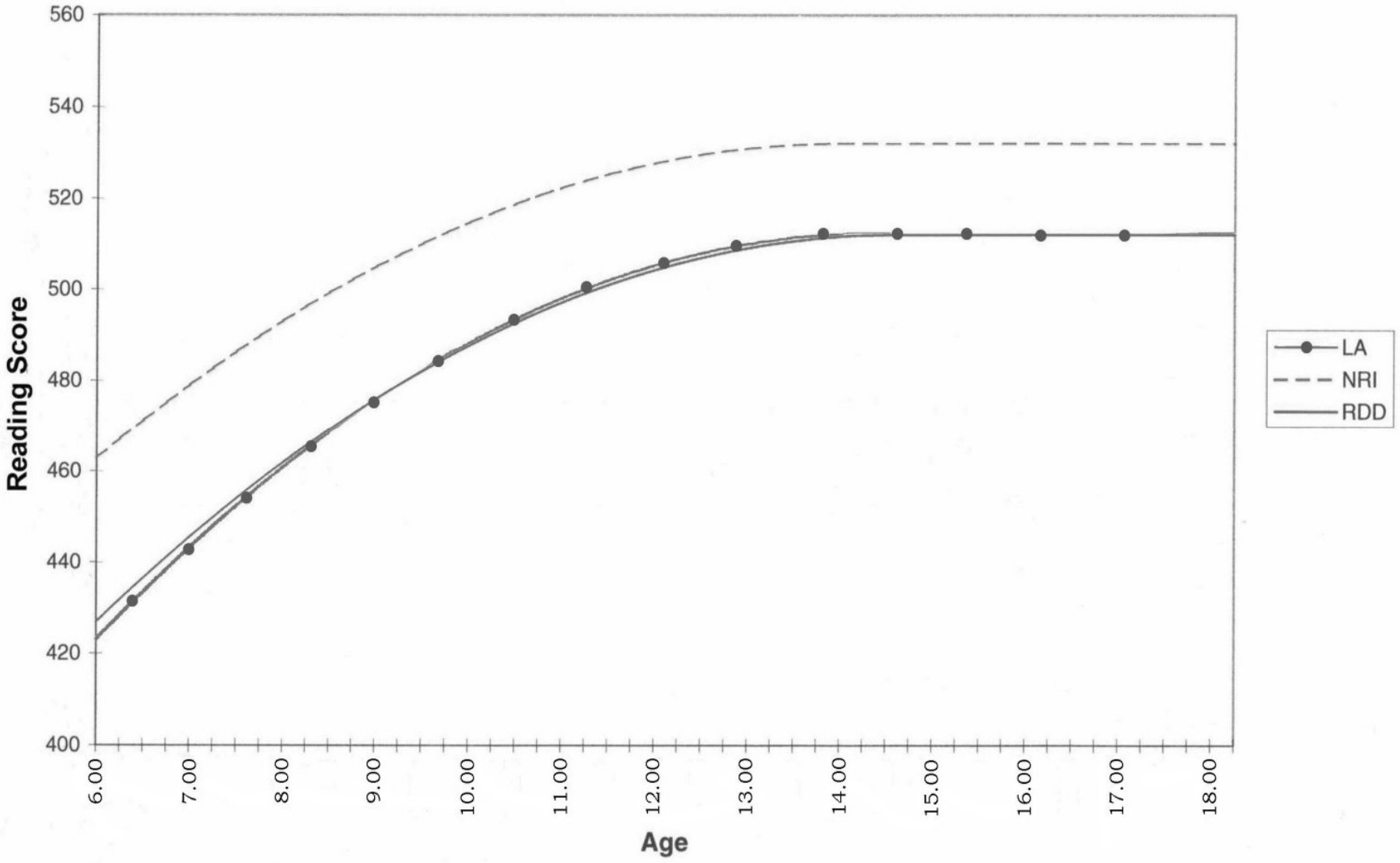
What's Wrong With IQ-Discrepancy?

- IQ- discrepant and non- discrepant low achievers do not differ significantly in behavior, achievement, cognitive skills, response to instruction, and neurobiological correlates once definitional variability accounted (Siegel, 1992; Stuebing et al., 2002)

- Status models cannot be reliable based on a single assessment (Francis et al., 2005)


RD Groups
1
0.5
0
-0.5
-1
-1.5
IQ-Discrepant
Low Achievement
Problem Solving
Concept Formation
Phonological Awareness
Rapid Naming
Vocabulary
Paired Associate Learning
Visual Motor

Discrepancy - Francis et al. (1996)



Intervention Studies Addressing the Discrepancy Hypothesis

Strong relation with Word Recognition Outcomes?

Study	IQ	IQ- Discrepancy
1. Foorman et al., 1998	No	--
2. Hatcher & Hulme, 1999	No	--
3. Torgesen et al., 2000	No	--
4. Torgesen et al., 2001	No	--
5. Vellutino et al., 2000	No	No
6. Wise et al., 1999	Yes*	--

*Only 1 of 3 outcome measures

Stuebing et al. (under review): overall R2 of .023

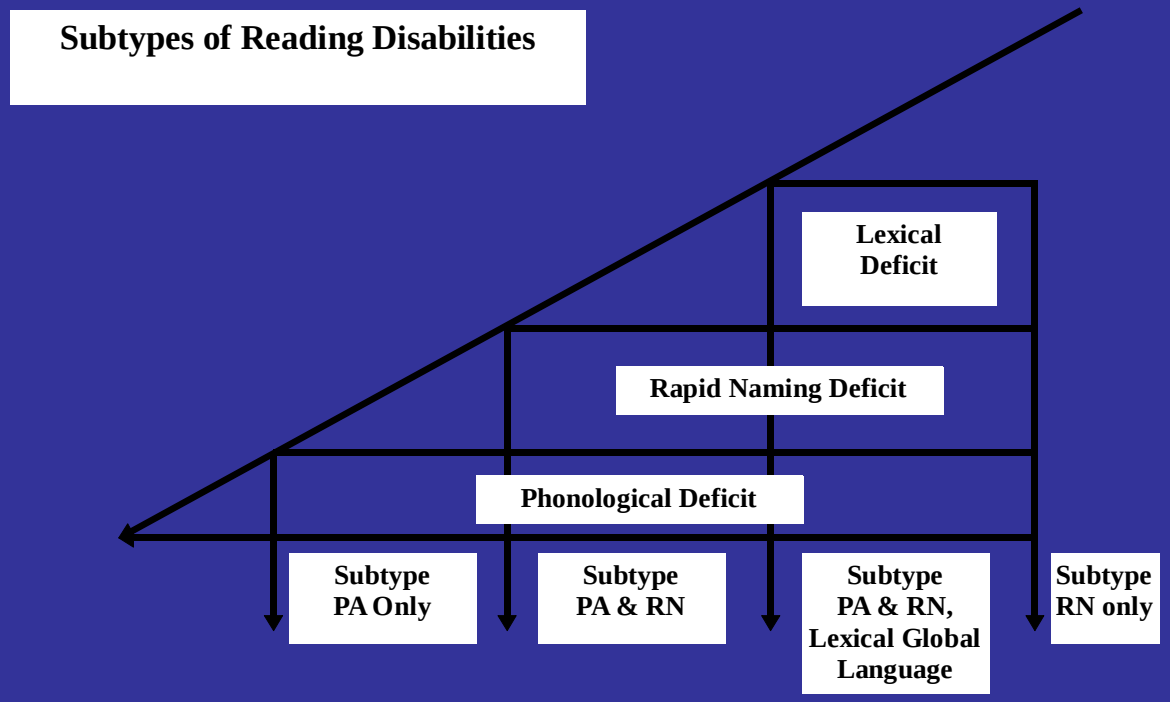
Low Achievement Model

- Designate a cut point on the achievement dimension
- Strengths: Strong validity, linked to intervention, easy to implement
- Weaknesses: Cut point, does not measure the underlying construct (can't differentiate subgroups of poor readers when the cause is known to be related to emotional difficulty, economic disadvantage, and inadequate instruction)
- Necessary but not sufficient: *Status models based on a single assessment will never be reliable*

What do cognitive assessments add?

- Processing subtypes weakly related to intervention outcomes; NO evidence that knowledge of cognitive strengths and weaknesses facilitates intervention
- No additional information not found in achievement profiles; Connor: academic profiles differentially predict intervention outcomes
- Not sure of what cognitive processes to measure outside word recognition
- Cognitive deficits DO NOT reliably indicate biological causation; LD is an interaction of biological and environmental factors

Morris et al., 1998



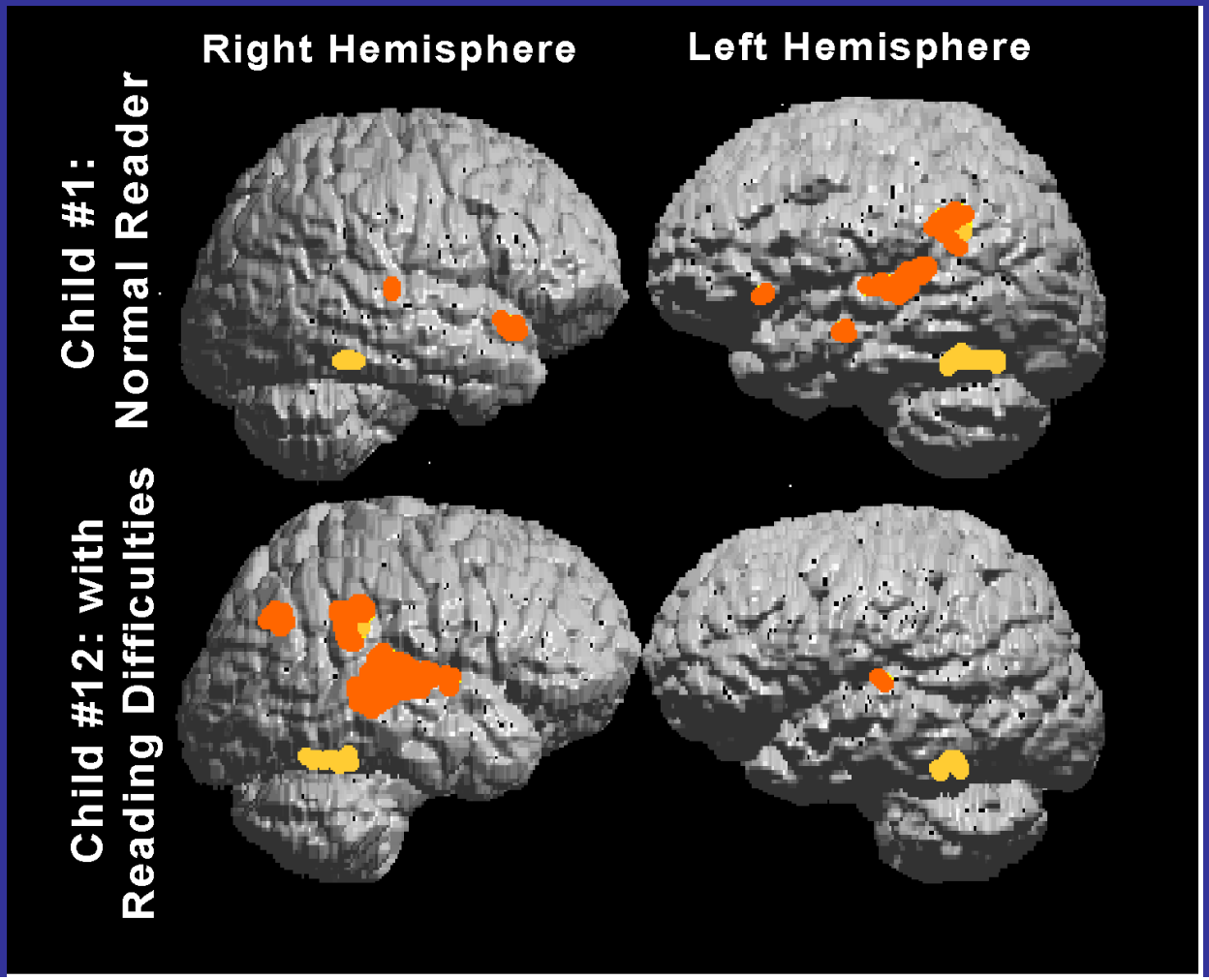
Connor: ATI studies

- Code vs. meaning-focused instruction *interacts* with child characteristics: providing more code-focused instruction for students weak in word reading and mode meaning-focused instruction to students weak in vocabulary/comprehension resulted in significantly higher reading comprehension scores compared to controls

Connor et al., *Science*, 2007, 315, 464-5.

Center for Clinical Neuroscience-Papanicolaou

Neural Signature of Reading Disability (Papanicolaou)



Neural Response to Intervention

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

8 children with severe dyslexia

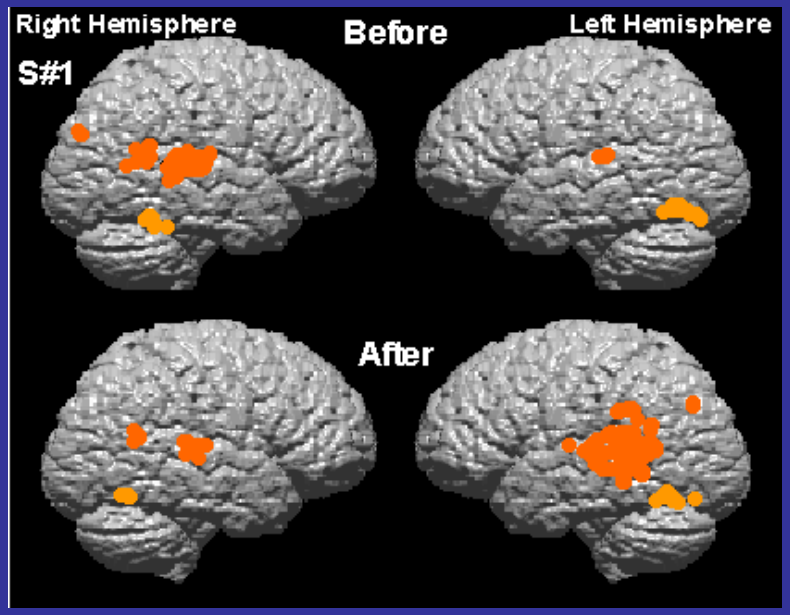
8 week intense phonologically- based intervention (2 hours a day= up to 80 hours of instruction)\

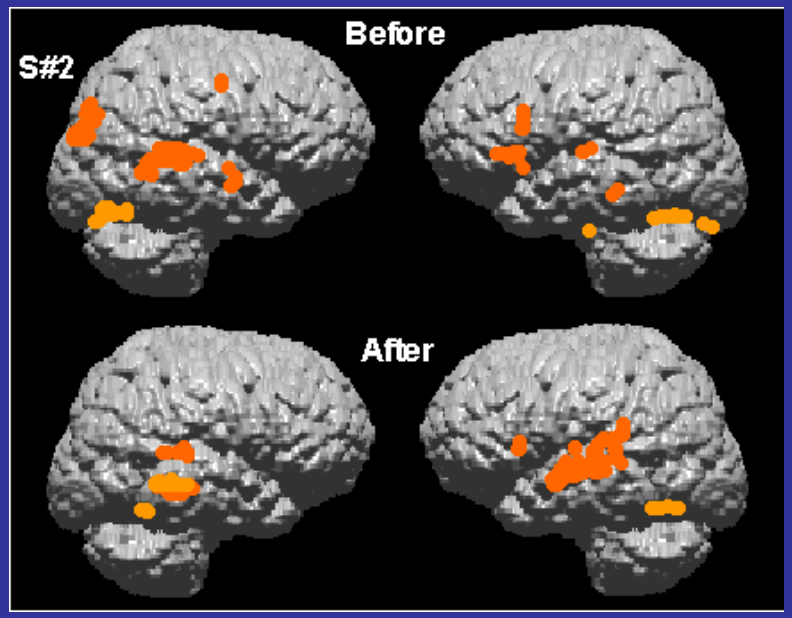
Simos et al., *Neurology*, 2002

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	__

Intervention Normalizes Brain Function (Simos et al., 2002)





Quality instruction is Directly Linked to Learning Problems and Learning Disabilities

Instructional factors are underestimated as a cause of LD (Fletcher et al., 2007)

- **Skills that prevent LD can be taught--they must be taught early in school**
- **Some children placed in special education may be instructional casualties because they did not get adequate instruction when it would be most effective**

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?

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.

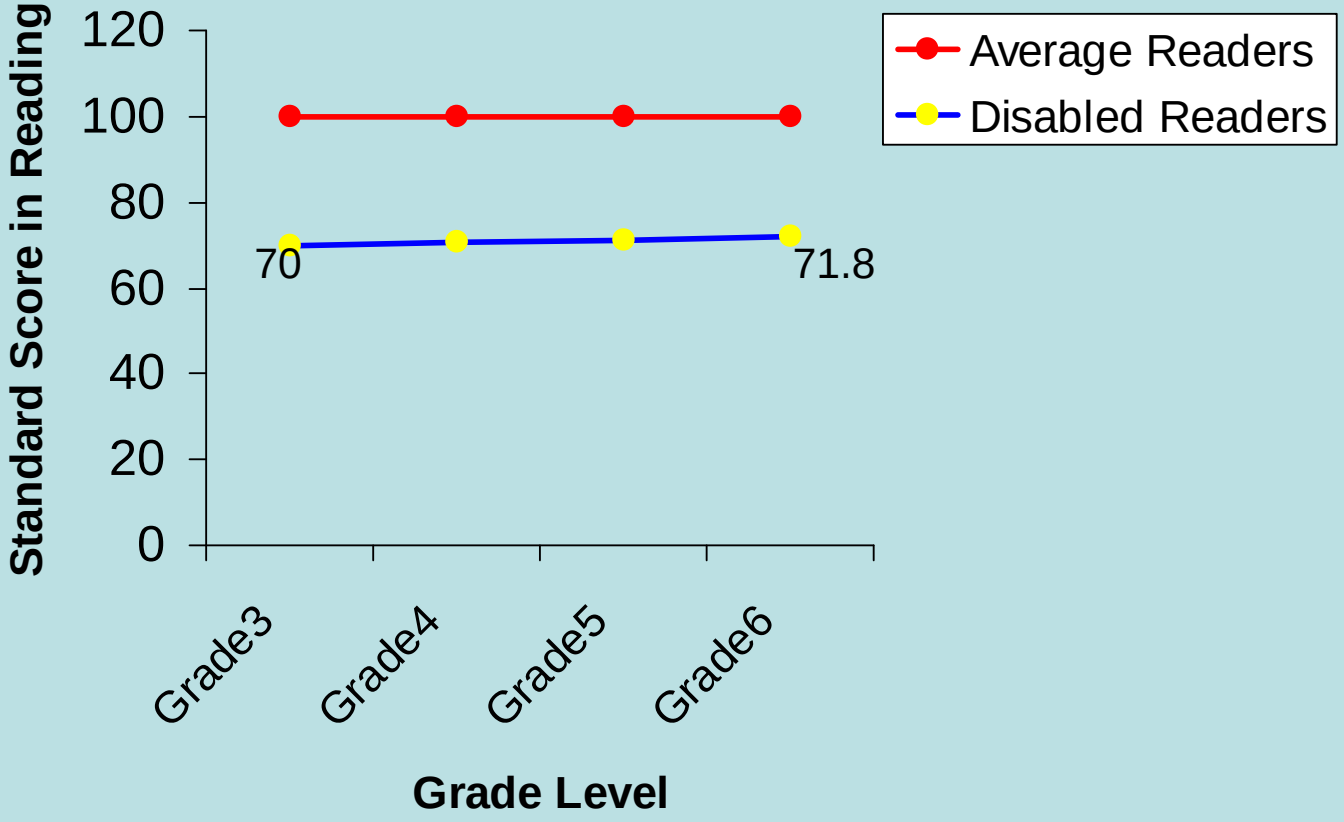
Adopted by the Board of Directors: November 12, 2002

Special Education Cannot Close the Gap

Identification based on failure- traditional model (IQ discrepancy) has weak scientific foundation

- System oriented to procedural compliance, not services and outcomes
- Wait to Fail model that sometimes stabilizes but rarely remediates
- Remediation is not a solution to acceleration

Change in Reading Skill for Children with Reading Disabilities who Experience Growth in Reading of .04 Standard Deviations a Year

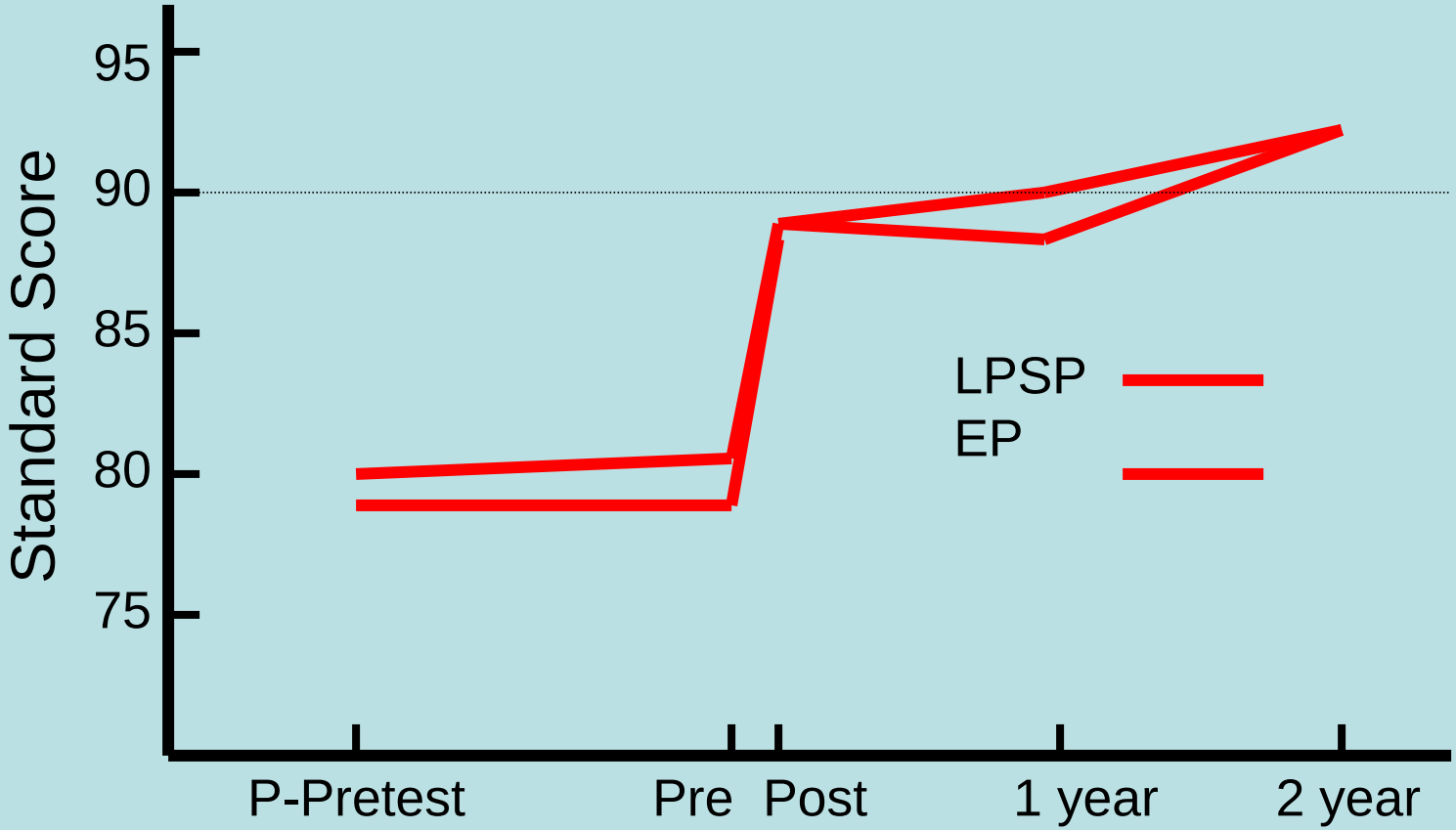


Research Bases

More Bad News

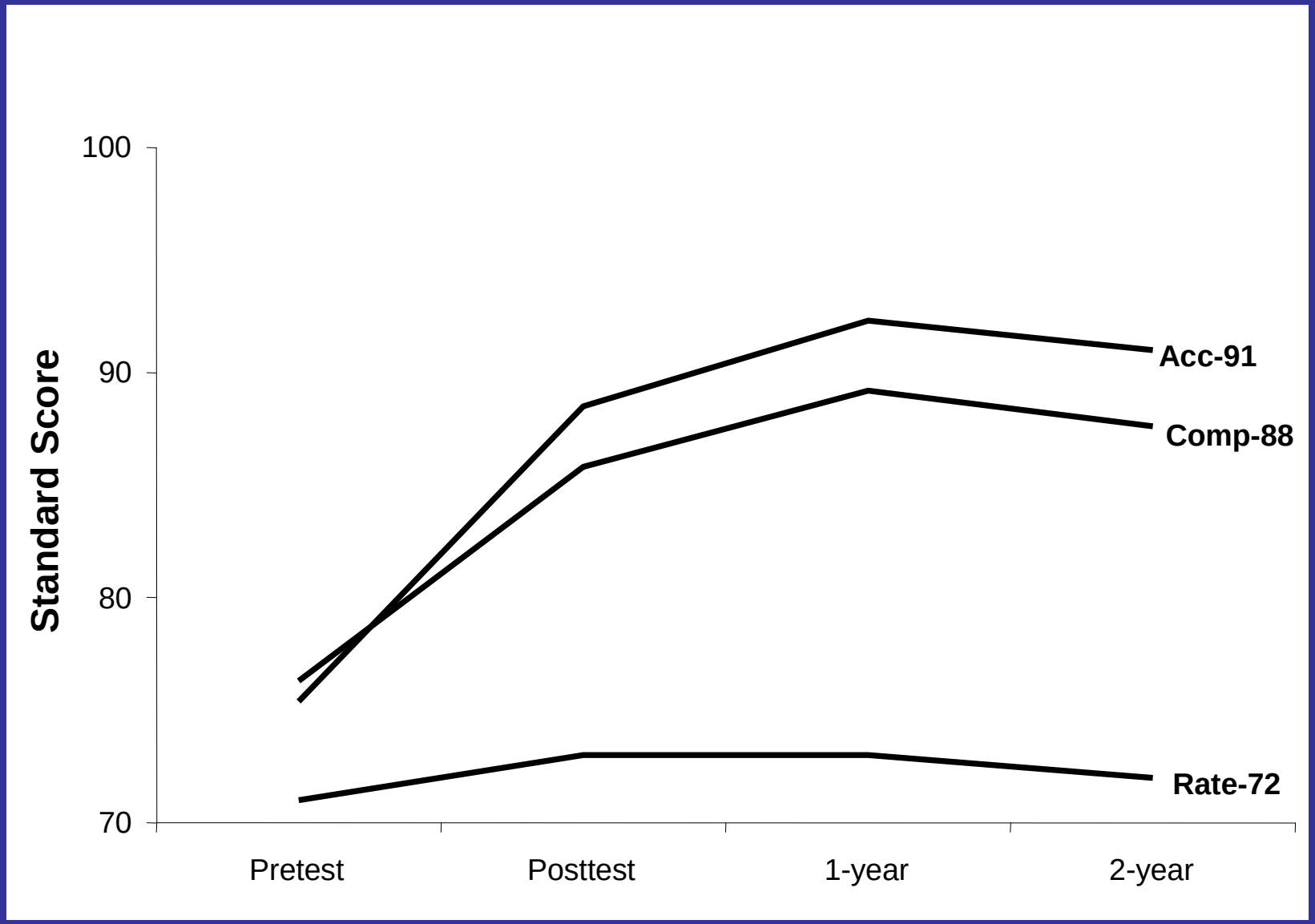
- Resource rooms: Bentum & Aaron (1997): 4 years in resource room placement associated with no growth in reading and decline in IQ; Foorman et al. (1997): no acceleration relative to original status even with reading support
- Inclusion: Vaughn and colleagues: over half of students with LD show no growth in reading in supported inclusion classrooms (similar findings by Zigmond
- *Where's the intensity and differentiation?*

Growth in Total Reading Skill Before, During, and Following Intensive Intervention (Torgesen et al., 2001)



Research Bases

Reading rate remained quite impaired (Torgesen, 2001)



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?

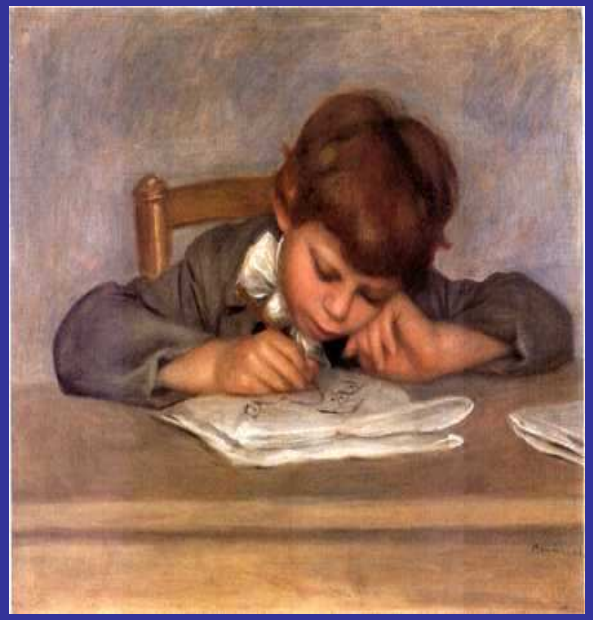
Early Intervention is Possible

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

Research Bases

Early Intervention is Effective (Fletcher et al., 2007)

- Prevention studies in reading (and behavior) commonly show that 70-90% of at risk children (bottom 20%) in K- 2 can learn to read in average range

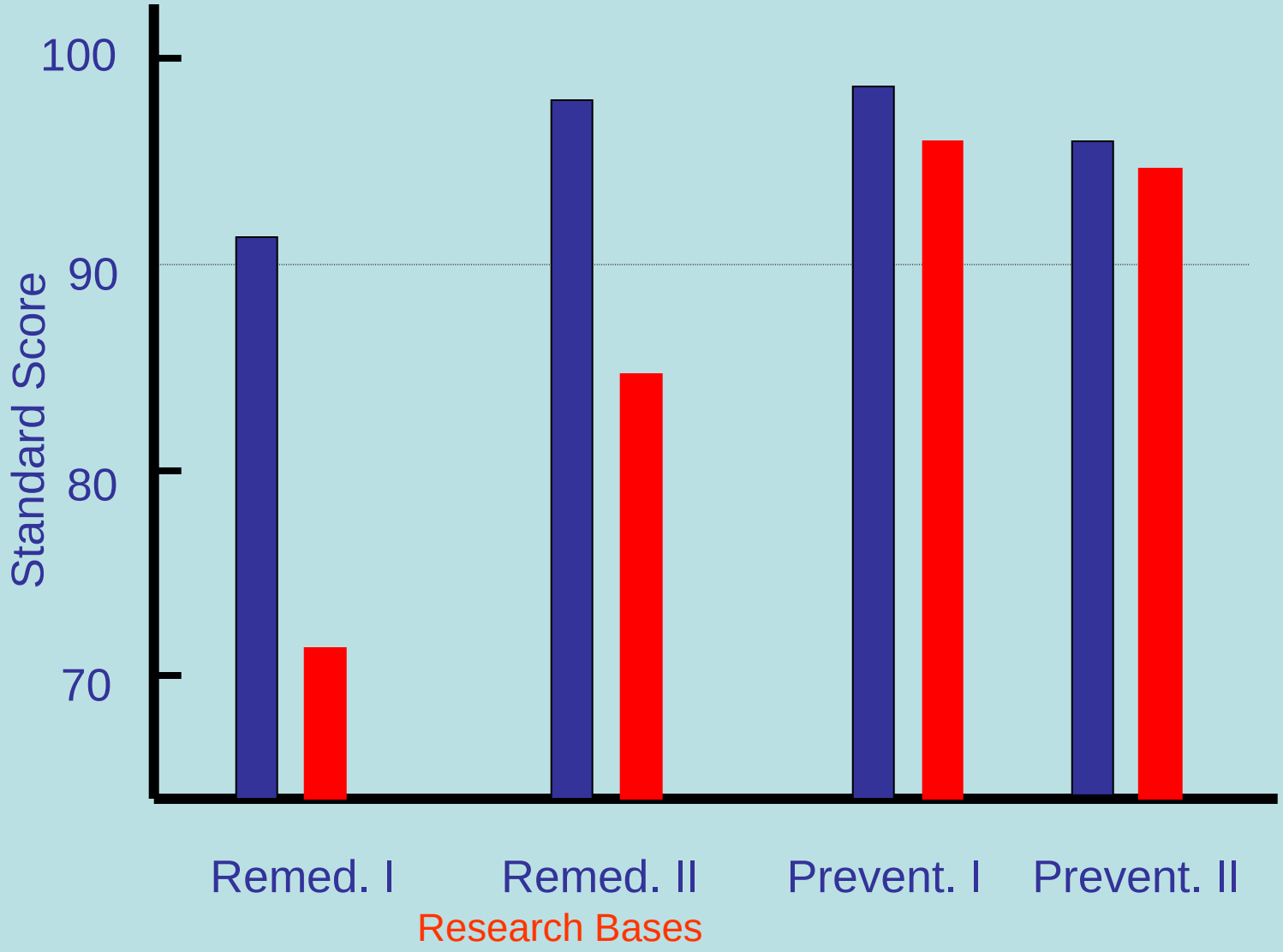


Early Intervention Reduces the At- Risk Population

- Primary alone: 5- 7%
- Secondary alone: 2- 6%
- Primary and Secondary: .01% to < 2-5%

Research Bases

Differences in Outcomes for Basic Reading Skills and Rate in Prevention vs. Remediation Studies



Why RTI? Early Intervention Doesn't Work for Every Student

- Even the very best prevention programs leave behind 2-10% of the school population
- Need to reduce the numbers in order to effectively implement remedial programs

- **How do we connect prevention and remediation?**

Link general education and special education through multi-tiered instruction and RTI

New Alternatives: Response to Instruction (Intervention)

- Universal screening and serial curriculum- based assessments of learning in relation to instruction
- Identification is more reliable than when based on a single assessment
- As one criterion, student may be LD if they do not respond to instruction that works with most students (i.e., unexpected underachievement)
- May identify a unique subgroup of underachievers that reflects an underlying classification that can be validated (Al- Otaiba & Fuchs, 2002; Vellutino et al., 2003)
- Implemented with a multi- tiered intervention model that integrates general and special ed
- School-wide change- not just enhanced pre-referral services

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

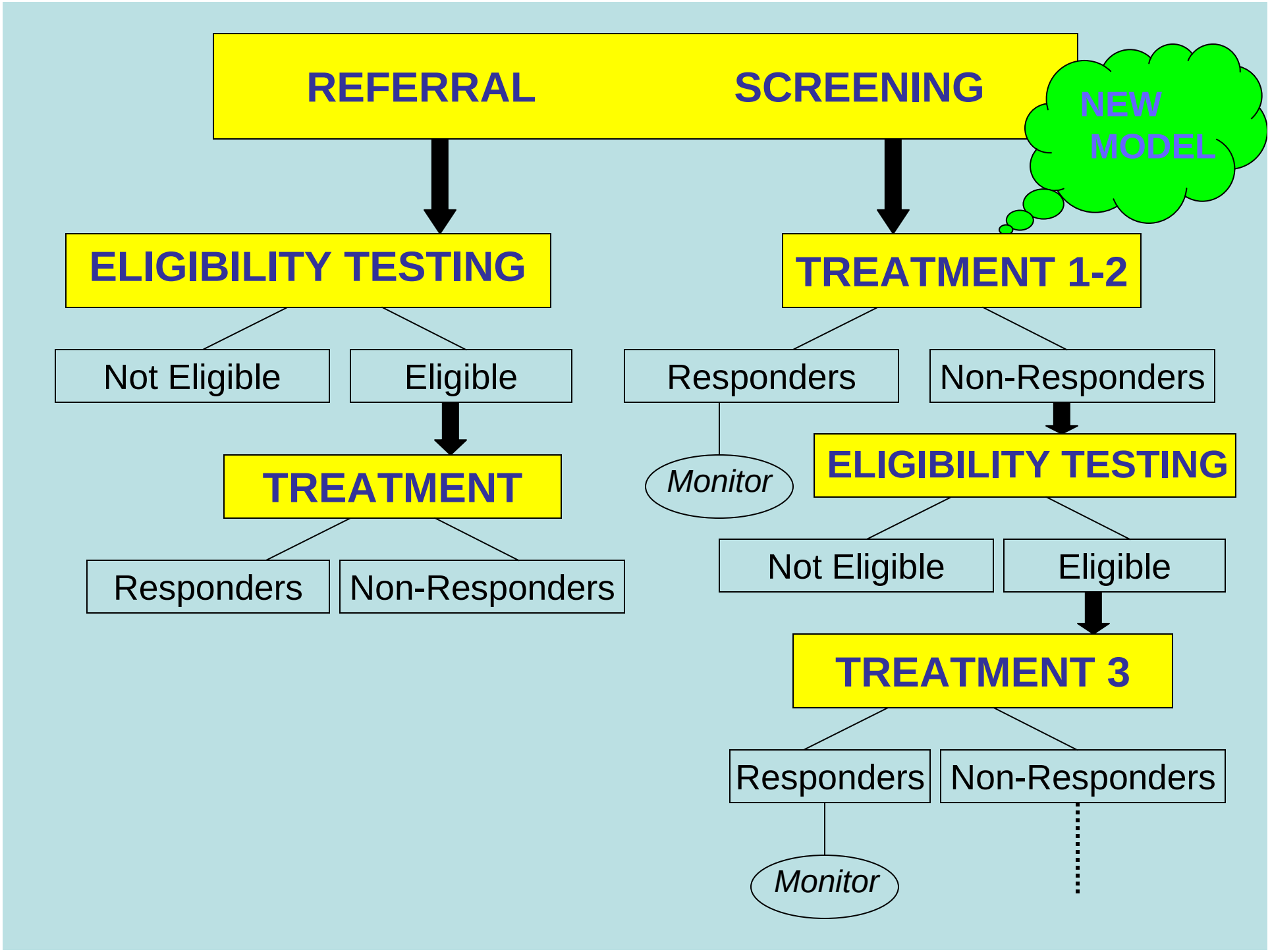
More intense intervention in general education, usually in small groups.

Tier 3: Tertiary Intervention .

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

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

http://www.pbis.org/


REFERRAL
SCREENING
NEW MODEL
ELIGIBILITY TESTING
TREATMENT 1-2
Not Eligible
Eligible
Responders
Non-Responders
TREATMENT
Monitor
ELIGIBILITY TESTING
Responders
Non-Responders
Not Eligible
Eligible
TREATMENT 3
Responders
Non-Responders
Monitor

Implementing the 3-tier model

- How to start: Universal screening, progress monitoring, professional development for classroom teachers, supplemental intervention, intensive intervention
- Focus is always first on the classroom (Tier 1) and then on supplemental (Tier 2) and intensive intervention (Tier 3)
- Screening and progress monitoring must be in place because instructional decisions are driven by data on student performance

Decisions for RTI

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

Screening

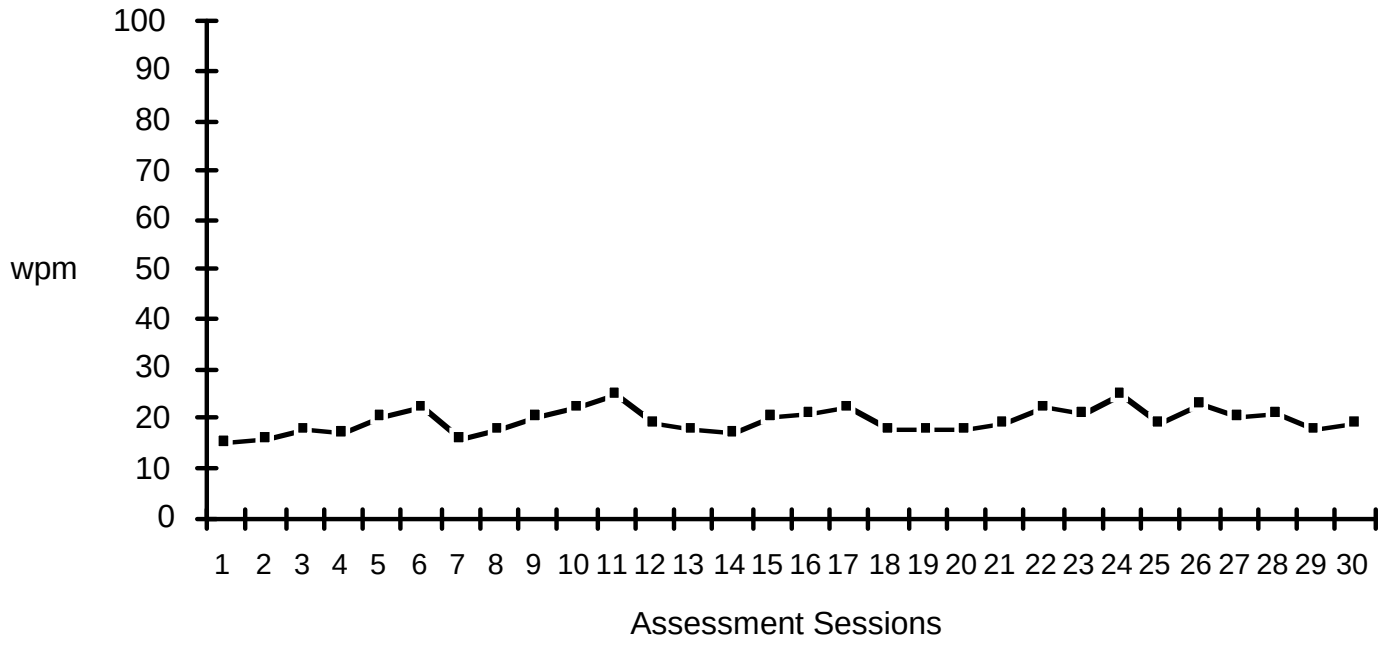
- The first step is to KNOW who is at risk- benchmark all students 2-3 times a year
- Rapid identification of children who are at- risk for reading difficulties
- Assessment must take into account teacher time
- More accurate to identify students are not at risk so more teacher time for those at risk
- Screen to identify those least at risk and assess those who do not know the concepts
- 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?

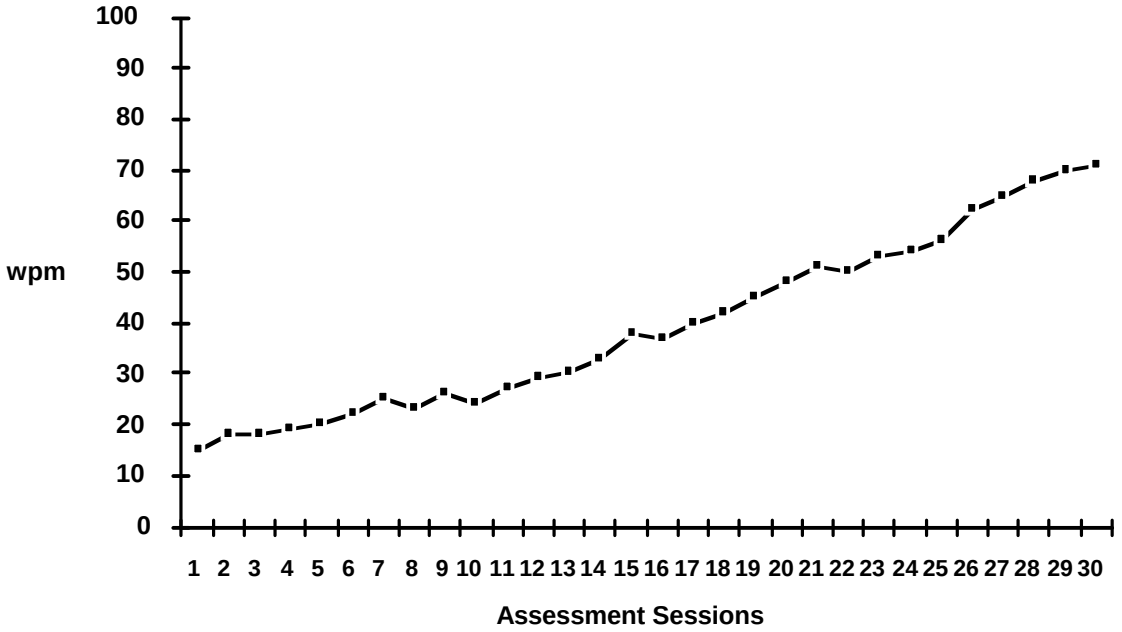
Short, probe assessments of reading fluency, math computations, and problem behaviors most widely utilized to monitor progress and signal the need for more intense instruction

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 perioc 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).

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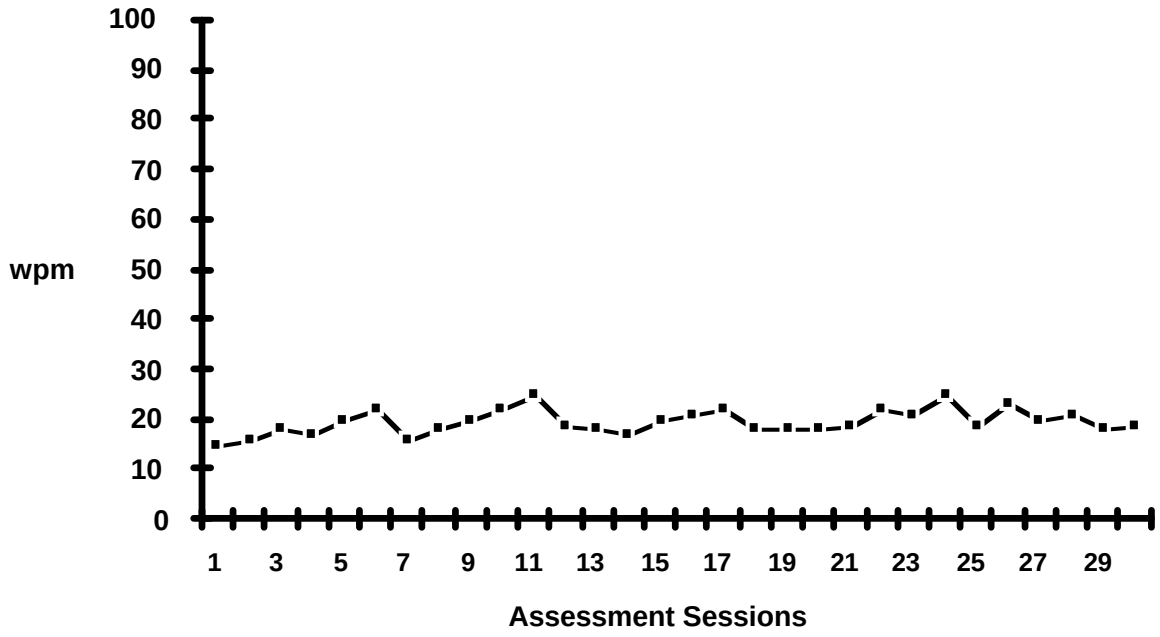

Description: **Response to instruction cannot be determined.**

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 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 are tied to silos?
- What is the link between classroom and supplemental intervention?
- District-wide plans that coordinates instruction and focuses PD around a small number of core and supplemental approaches

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; in others, special education is after Tier 3
- Referral can occur any time in the intervention process

Role of Parents

- Must be involved from the beginning
- Inform parents of risk status and what is being done
- Provide data on instructional response
- Respond directly with questions about eligibility for special education
- Help parents understand that eligibility for special ed services is not the highlight of educational experiences
- In RTI implementations, due process issues are usually reduced

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

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!*

LD Summit: Hybrid model

- 1. Evaluate Response to Instruction
- 2. Establish Low Achievement
- 3. Apply the Exclusions

(Demonstrate that the difficulty is a disability and that special education is the best intervention)

- www.air.org/ldsummit

Issues

- Identifying inadequate responders- still a continuum with potential cut point issues
- Linking general and special education
- Resources must be redeployed
- Knowledge base on inadequate responders is weak
- Need more research on core instruction in math and written expression and tier 2/3 in math
- Secondary schools

Research is Evolving!!

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

We Have the Tools! We don't apply the tools in schools!

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).

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www.texasldcenter.org