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Why RTI? Some Research Findings

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Reauthorization: Coming Soon to a School Near You

- House and Senate bills concurred in significant changes in approaches to LD identification
- No mandates
- Many misunderstandings

Three related changes

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 a component of LD identification*
3. *Prevent disabilities whenever possible*

Consensus Reports: 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

Overview of Research Findings Supporting the Need for RtI

1. Learning problems are common in schools
2. Instructional factors can cause disability
3. Status models, including IQ/Achievement discrepancy and other cognitive assessments, lack reliability and validity
4. Special Education does not close the achievement gap; remediation is not a solution
5. Prevention and early intervention are effective
6. The neural systems are malleable
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 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

Why Care About Reading?

Special Education Commission: **2/5 children in special ed because they can't read adequately**

- **6% of all students in schools are identified as LD; 52% of the special ed population**
- **90% with high incidence disabilities**
- **80- 90% of those identified as LD are impaired in reading**

- ***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 and schools won't make AYP if the only intervention is to wait for special education services

Quality instruction is Directly Linked to Learning Problems and Learning Disabilities

Instructional factors are underestimated as a cause of LD (Lyon et al., 2001)

- **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**

Special Education Does Not Close the Gap

- Identification based on failure-underlying model (IQ discrepancy) has no scientific basis (Steubing et al., 2002)
- Other status models are not a viable alternative
- System oriented to procedural compliance, not services and outcomes
- Wait to Fail model that sometimes stabilizes but rarely remediates

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 (Steubing et al., 2002)
- Status models cannot be reliable based on a single assessment (Francis et al., 2005)

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*

There is no need to assess cognitive processes

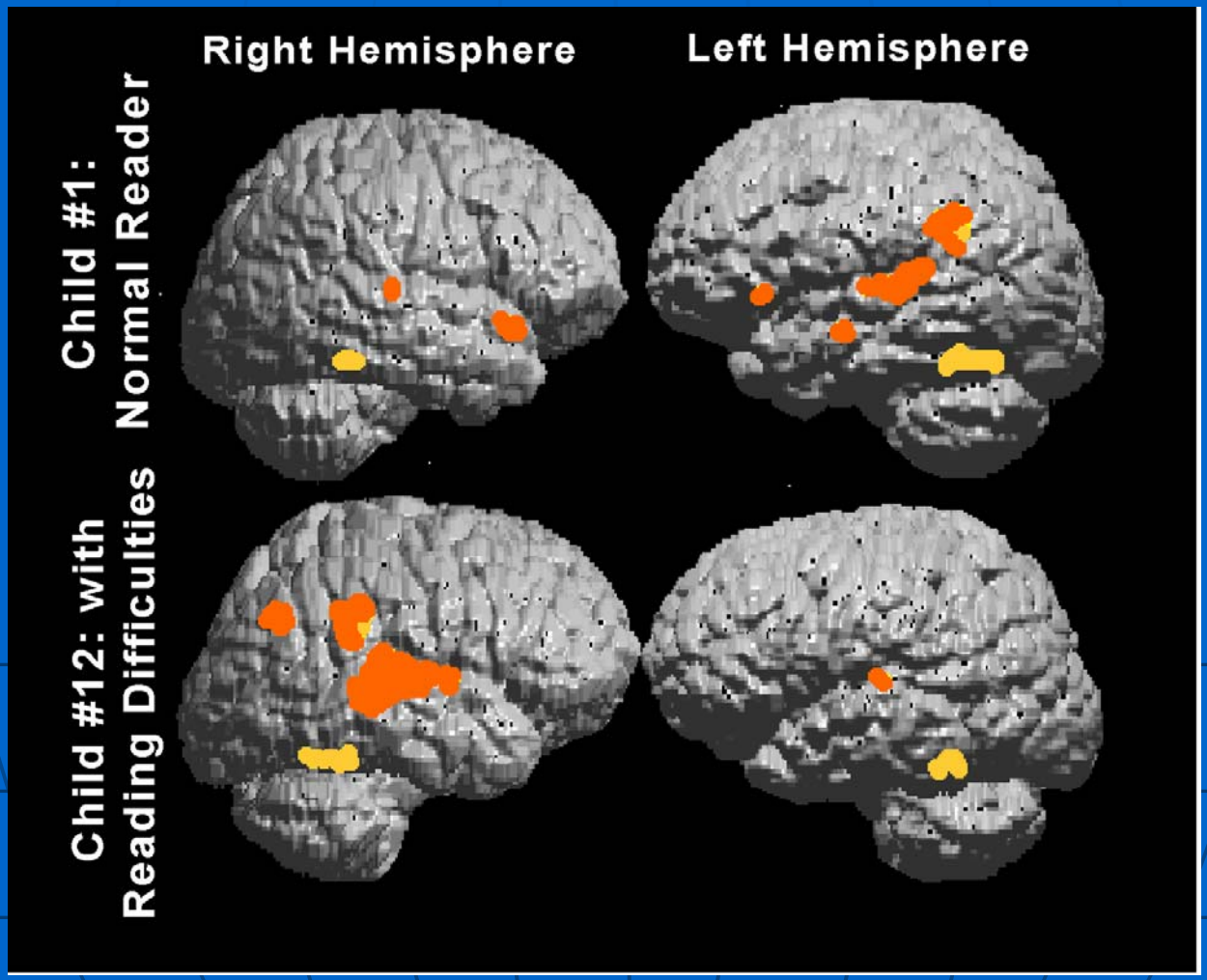
- Processing subtypes weakly related to intervention outcomes; NO evidence that knowledge of cognitive strengths and weaknesses facilitates intervention
- Cognitive deficits DO NOT reliably indicate biological causation
- Not sure of what cognitive processes to measure outside word recognition
- No additional information not found in achievement profiles
- Perpetuates status model that has not been effective in enhancing outcomes

Do Status Models Reliably Indicate LD?

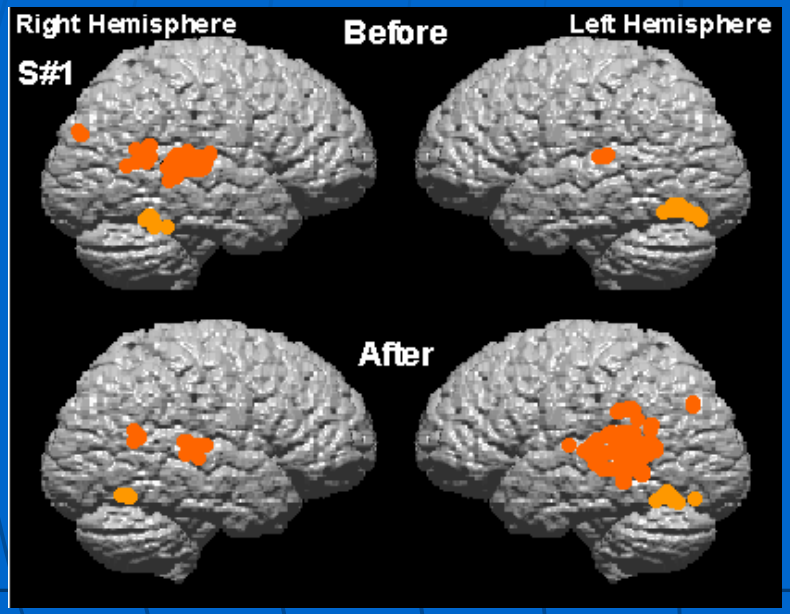
- Status models are not reliable indicators of unexpected underachievement, constitutional origins, or neurobiological factors
- LDs and low achievement result from the interaction of biological and environmental factors
- Current approaches do not identify or differentiate putative causes:

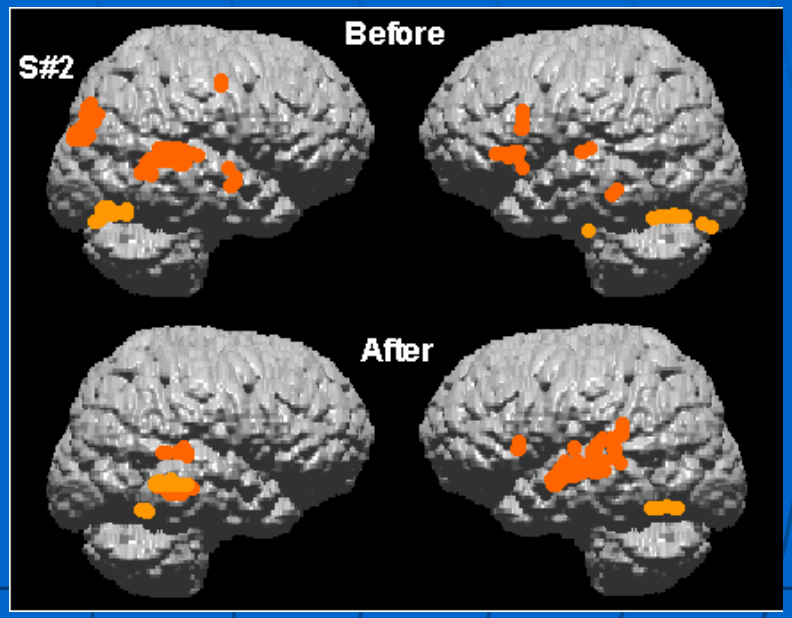
“neither the phenotypic nor the genotypic indicators of poor reading are correlated in a reliable way with IQ discrepancy” (Stanovich & Siegel, 1994, p. 48)

Neural Signature of Reading Disability (Papanicolaou)

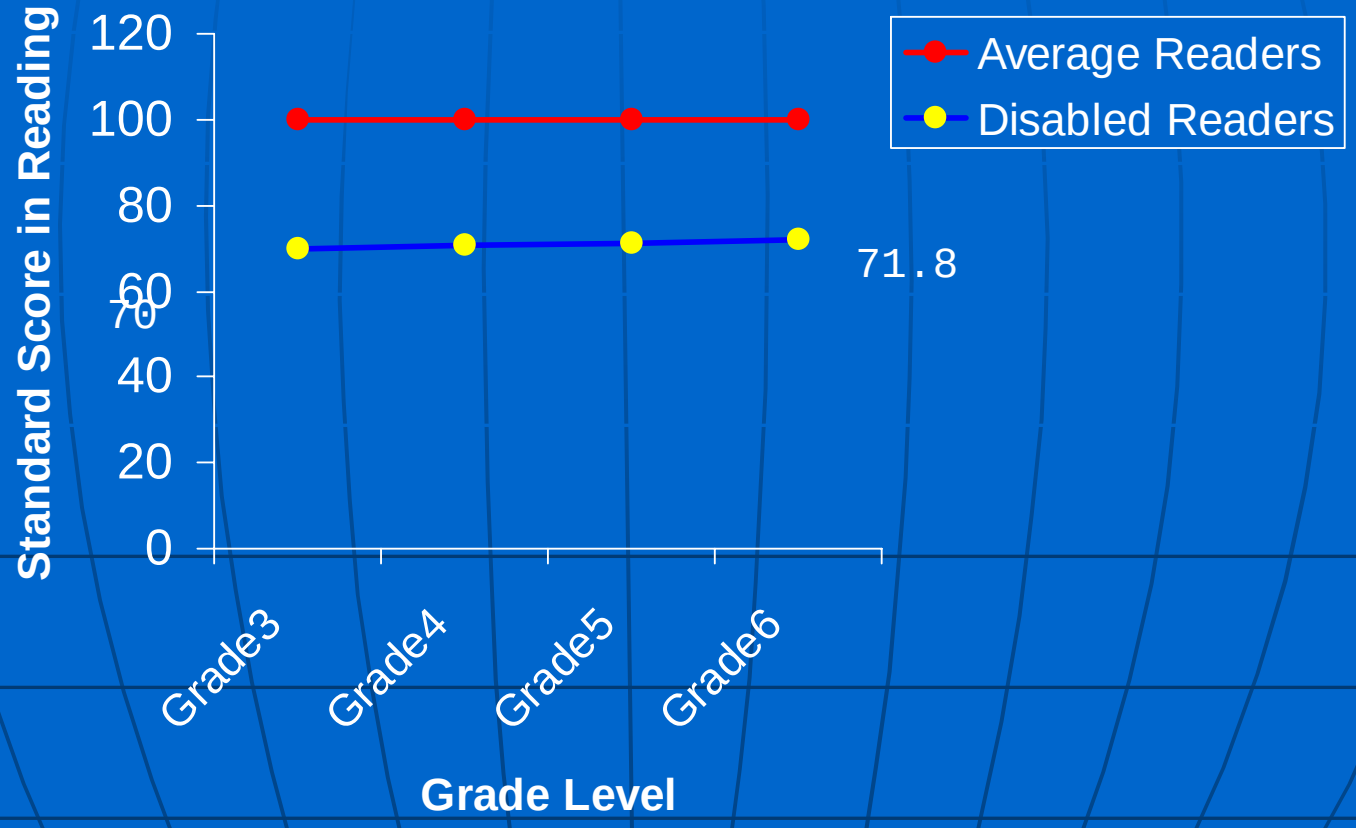


Intervention Normalizes Brain Function (Simos et al., 2002)





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

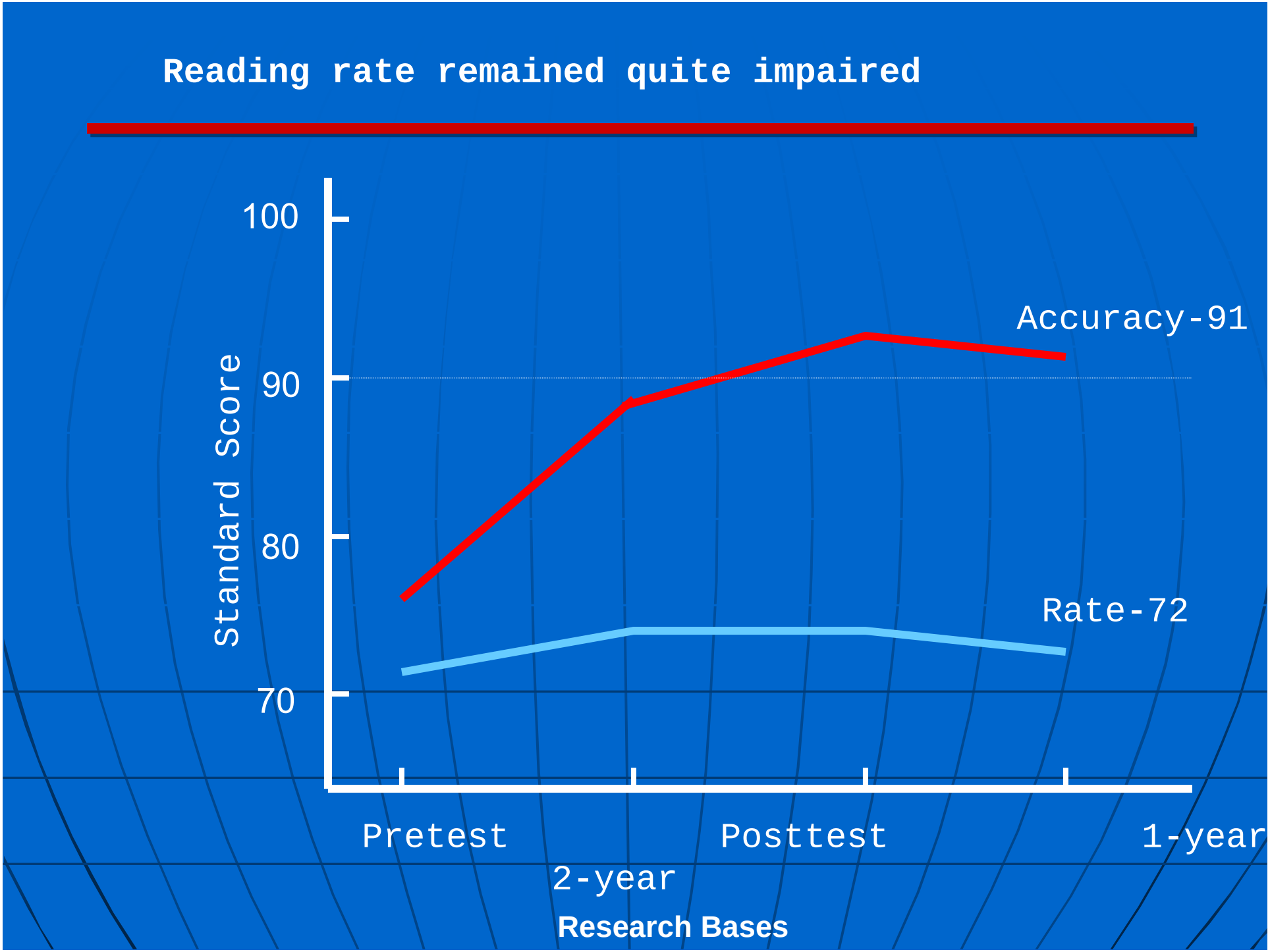


Research Bases

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

Research Bases

Reading rate remained quite impaired



Research Bases

Remediation is not a solution!

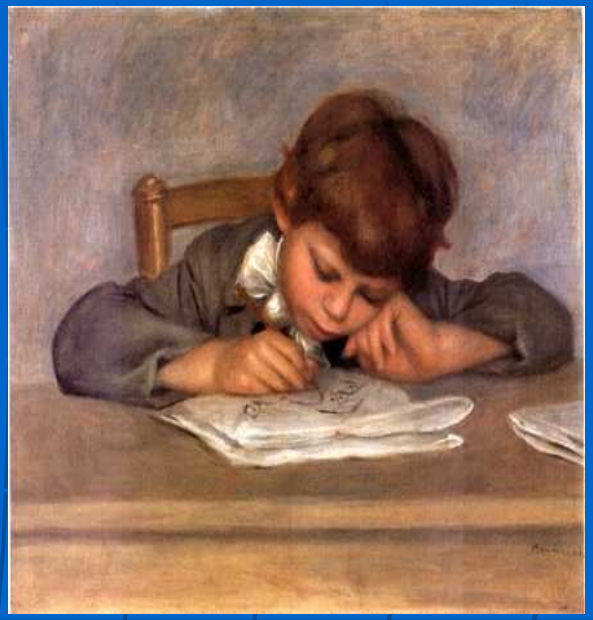
- Reading rate is limited because the proportion of words in grade level passages that children can read “by sight” is less than for average readers.
- How do you close the gap when the student is already 3- 5 years behind?

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

Early Intervention is Effective (Lyon et al., 2006)

- **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%

Research Bases

What percentage of children don't respond adequately to quality intervention?

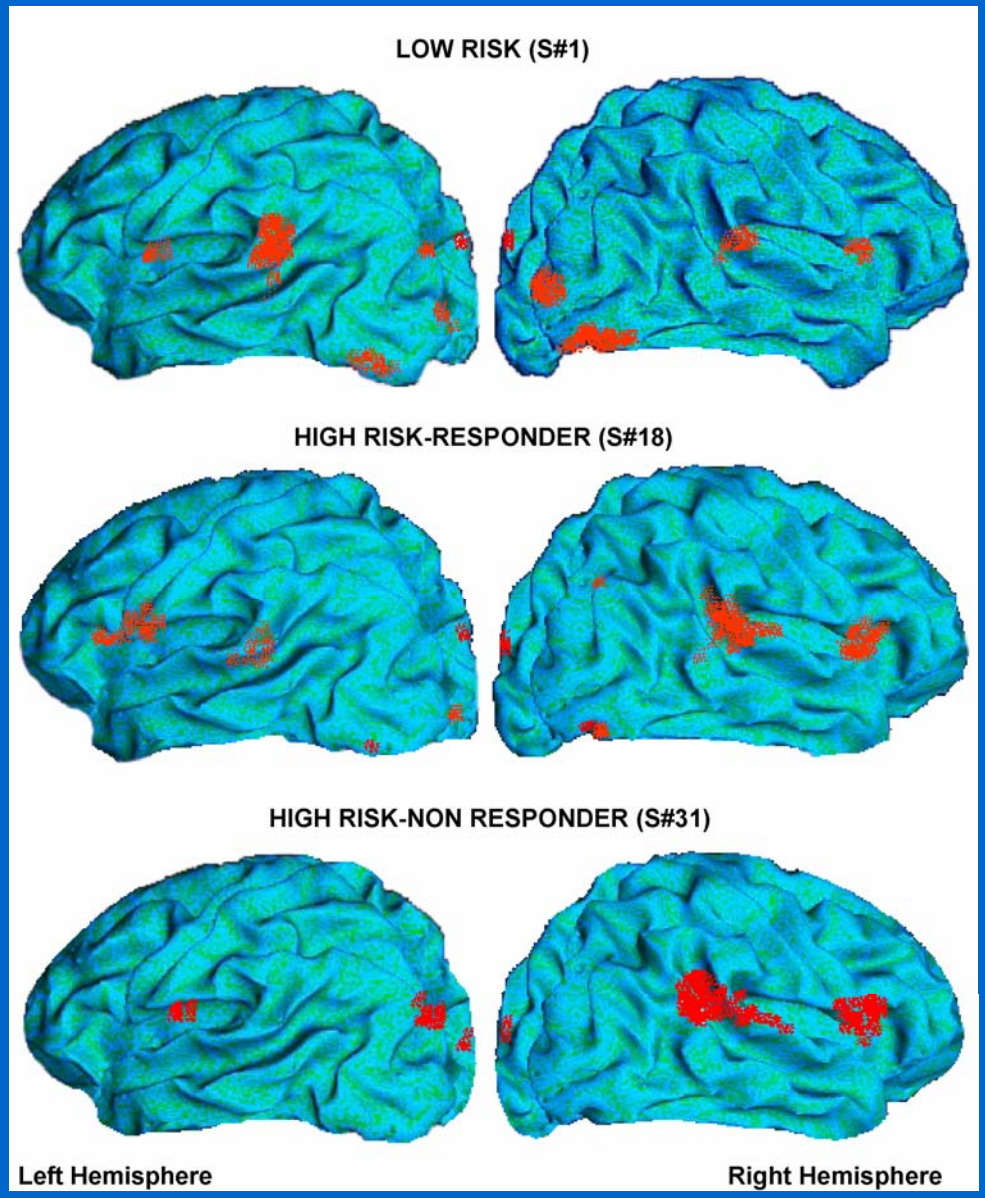
Tier 1 only: 15/92 = 16% (3.2% of school population)

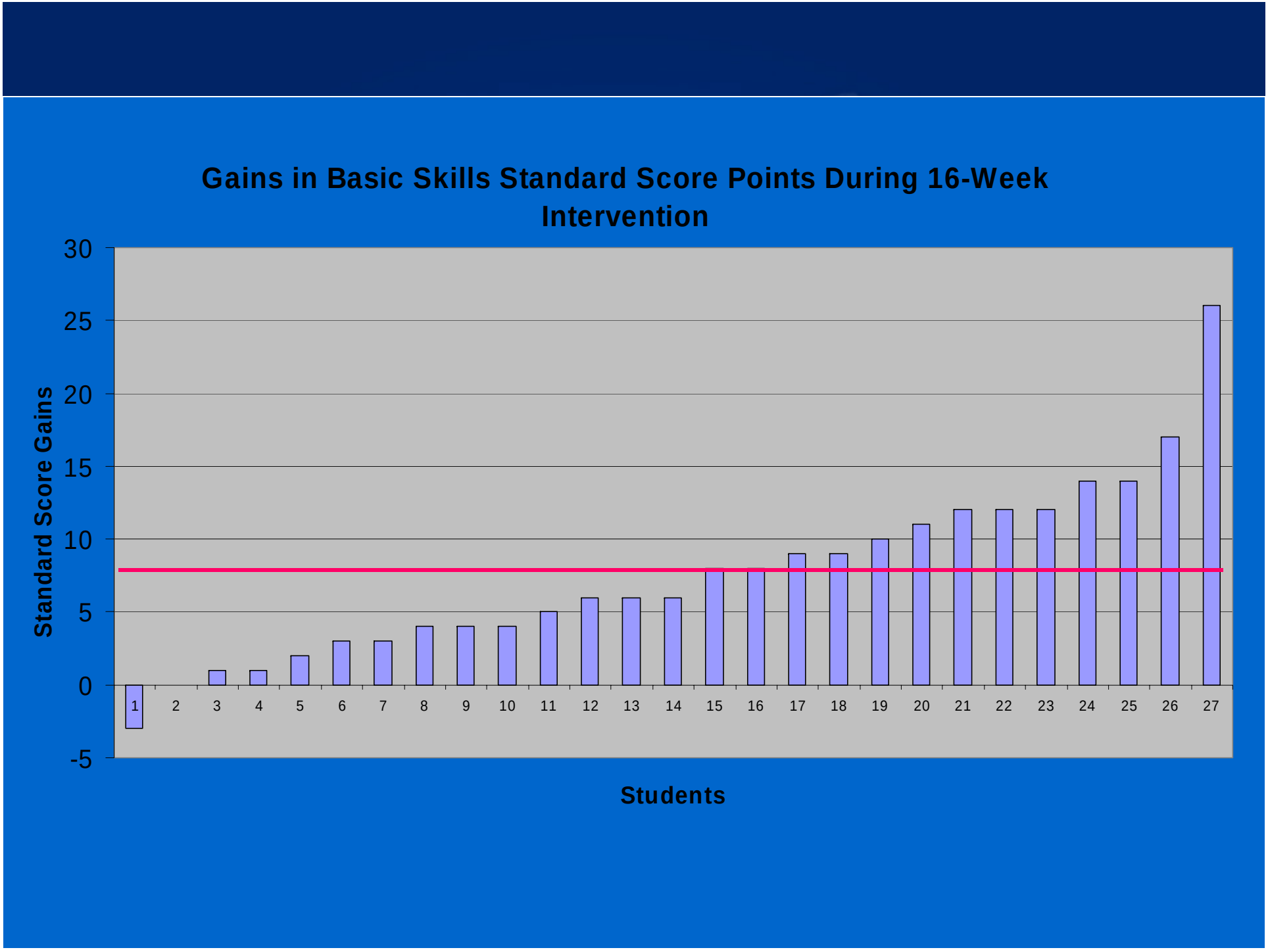
Tier 1 and 2: 7/165 = 4%

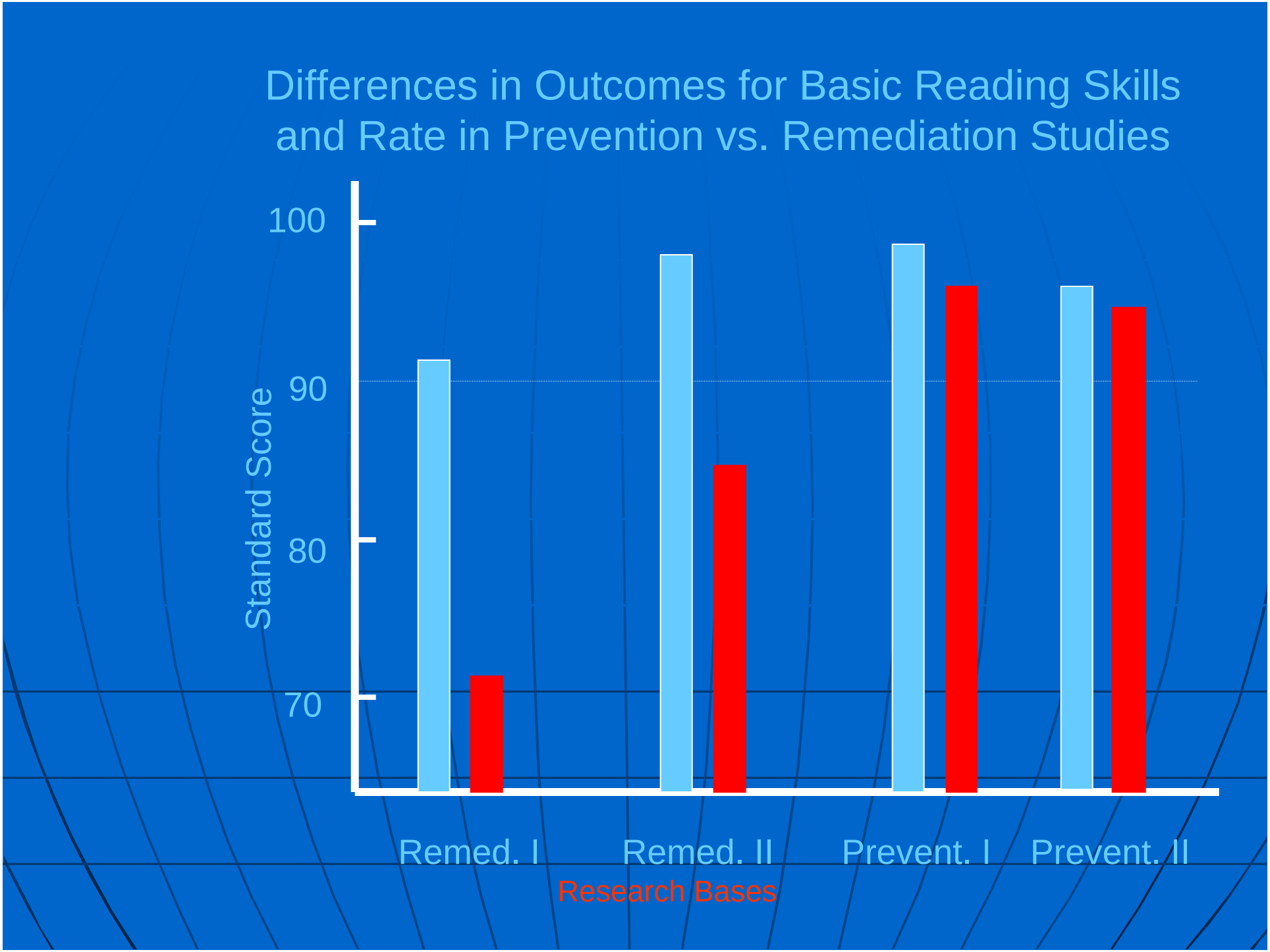
(<1% of school population)

(Woodcock Basic Reading < 30th percentile)

- **5 more students if fluency/comprehension criteria are used**


LOW RISK (S#1)
HIGH RISK-RESPONDER (S#18)
HIGH RISK-NON RESPONDER (S#31)
Left Hemisphere
Right Hemisphere


Gains in Basic Skills Standard Score Points During 16-Week Intervention
Standard Score Gains
30
25
20
15
10
5
0
-5
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
Students


Differences in Outcomes for Basic Reading Skills and Rate in Prevention vs. Remediation Studies
Standard Score
100
90
80
70
Remed. I
Remed. II
Prevent. I
Prevent. II
Research Bases

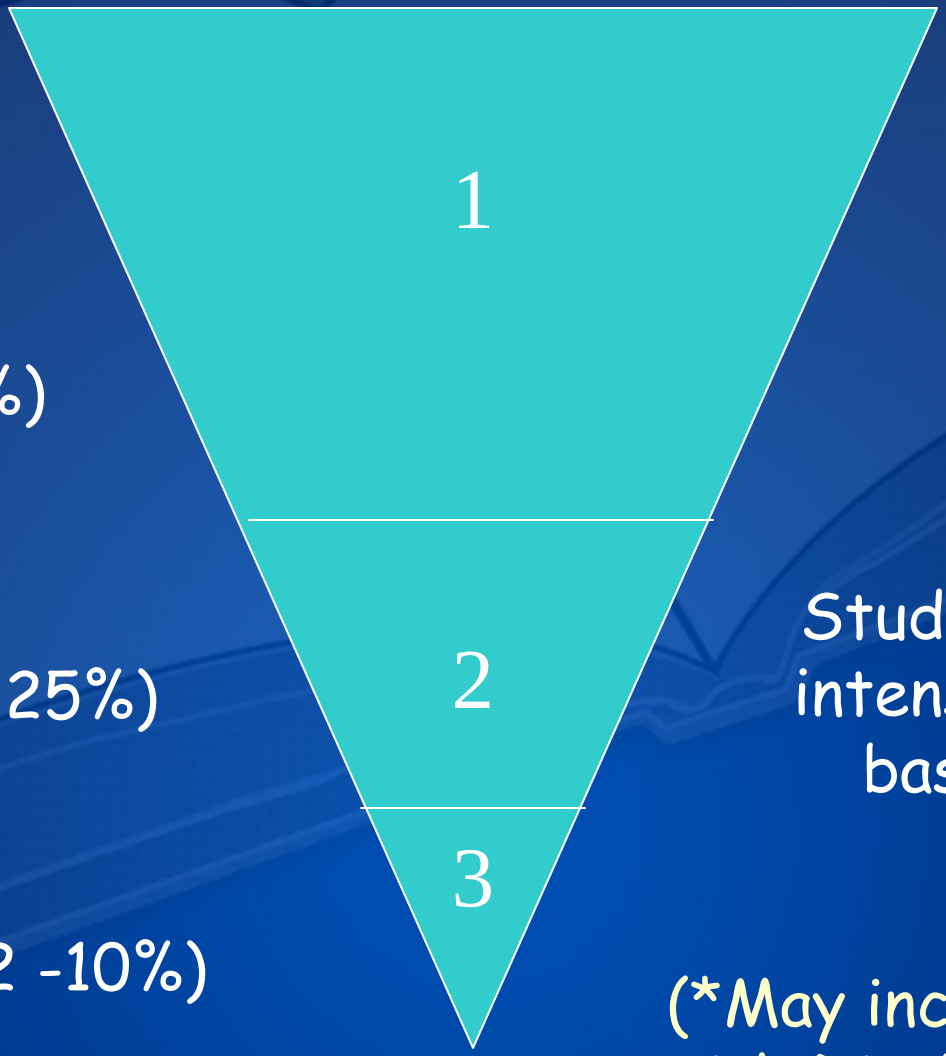
What are the alternatives to status models?

- Fundamental question is not who is LD, but what to do about it: intervene, then assess (Fuchs & Fuchs, 1998)
- Current models for classification assume that remediation is the solution, but this approach does not close the gap
- Many reading and behavior problems are preventable with early intervention
- Unexpected underachievement should be measured

New Alternatives: Response to Instruction

- 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

Early Intervening Services (EIS) & Response to Intervention (RtI) Decisions (3 Tiers of Services*)



(75-90%)

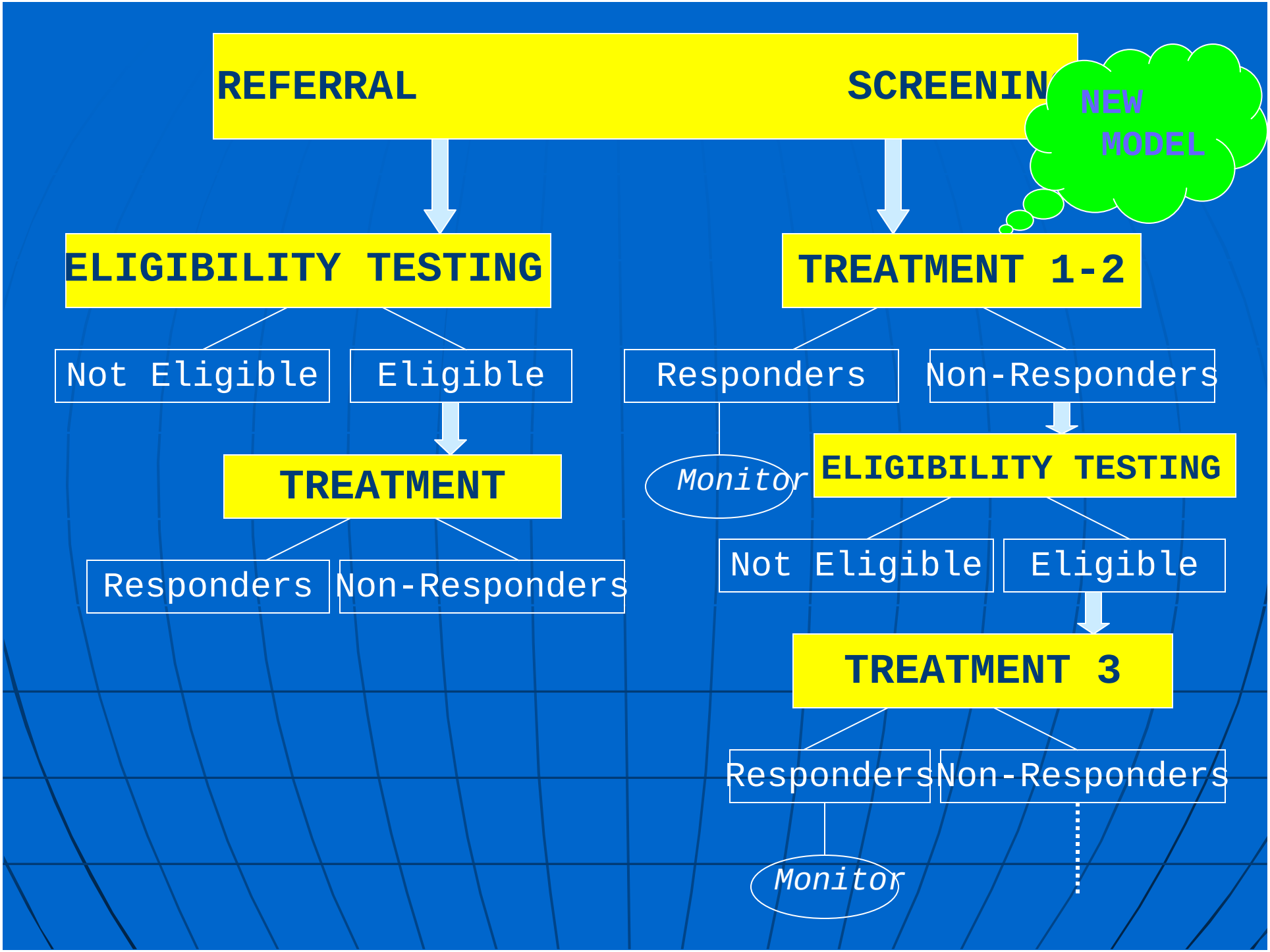
(10 - 25%)

(2 -10%)

Students successful receiving scientifically -based instruction

Students receiving intensive research-based services

(*May include Students with Disabilities (IEPs))


REFERRAL
SCREENIN
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

Who is LD?

- The student who does not respond adequately to quality instruction
- 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 exists on a learning and neural continuum that is malleable*

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

IDEA 2004: Discrepancy or RTI?

- 2)(i) The child fails to achieve a rate of learning to make sufficient progress to meet State-approved results in one or more of the areas identified in paragraph (a)(1) of this section when assessed with a response to scientific, research-based intervention process; ***or***

- (ii) The child exhibits a pattern of strengths and weaknesses in performance, achievement, or both, or a pattern of strengths and weaknesses in performance, achievement, or both, relative to intellectual development

IDEA 2004: Inadequate instruction is an exclusion

the group must consider, as part of the evaluation ...data that demonstrates that--

- (1) Prior to, or as a part of the referral process, the child was provided appropriate high-quality, research-based instruction in regular education settings, consistent with section 1111(b)(8)(D) and (E) of the ESEA, including that the instruction was 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, was provided to the child's parents.

Advantages of RTI models

1. Focus shifts from who is eligible to concerns about providing effective instruction

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

Lets line up practice with research! Otherwise why do the research?

Research Bases