

# Progress Monitoring and Decision Making in RTI

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# Topics

- I. RTI and Progress Monitoring
- II. A Connection to SLD Evaluation and Eligibility

# Essential Core Components of RTI

- Continuum of Instruction and Interventions
- System of Assessment and Progress Monitoring
- Process of Data-based Decision Making

# Interpreting Student Progress Data

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# Decision Rules within RTI

- Zirkel (2008) and Martin (2009) emphasize the importance of determining decision rules (e.g., “what will adequate progress look like”) in advance of intervention implementation.
- As decisions become more “high-stakes”, more sophisticated and valid decision rules should be utilized (Hixson, Christ, & Bradley-Johnson, 2008).

# Interpreting Progress Data

- Analysis of level (average performance)
  - Insufficient, especially when there's substantial change or trend
- Analysis of trend (pattern of change over time)
  - Visual analysis of student progress in relationship to goal line
    - useful when change is obvious
  - Calculate slope or rate of improvement (ROI) and compare to norms;
    - improved decision making when sufficient data
- Analysis of trend and level (dual discrepancy)
  - Combination of the above WITH pre-determined criteria specified
  - Provides a more comprehensive approach to data analysis

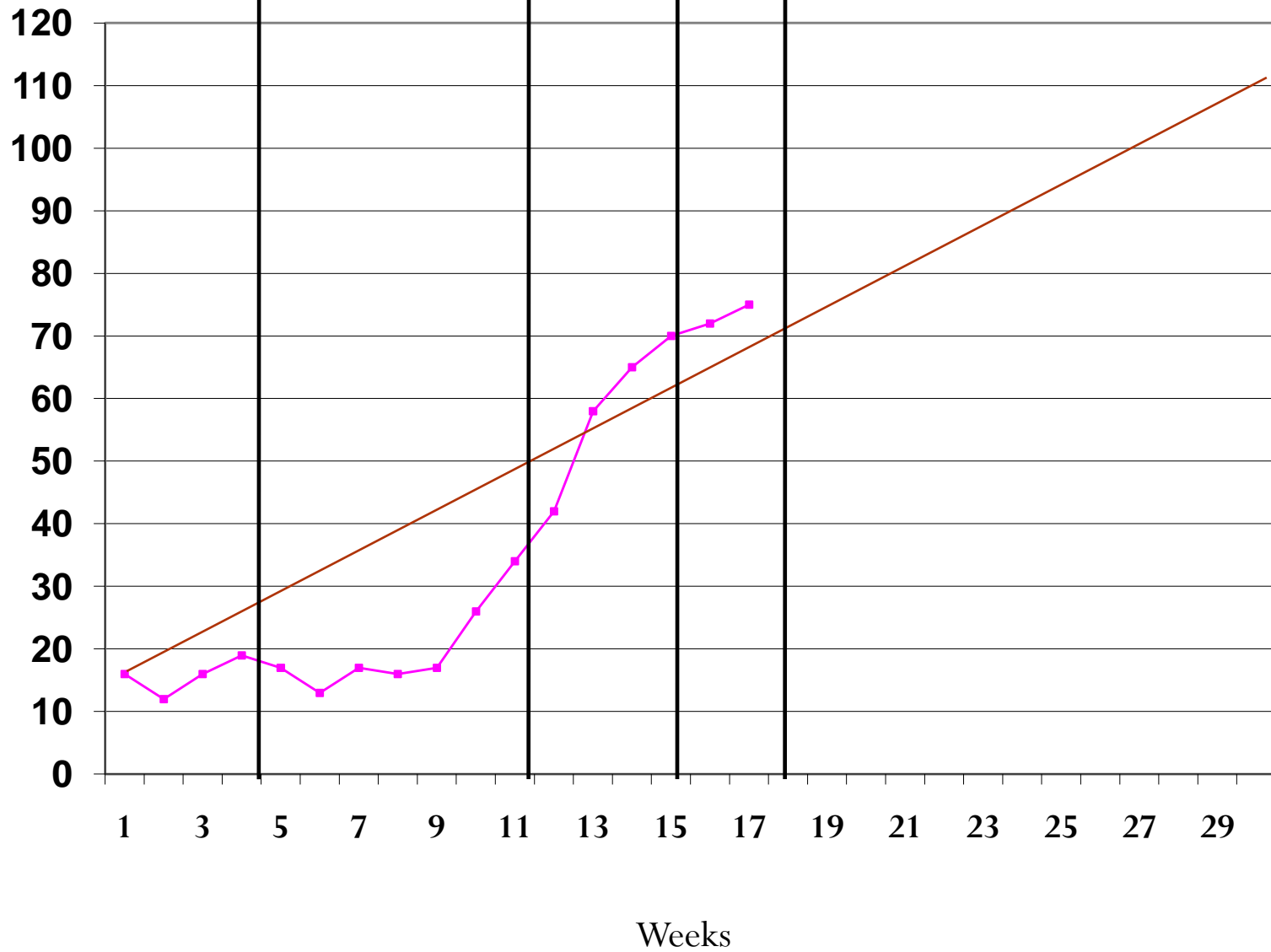
# Visual Analysis

- Most common approach is the “4 point data” rule
- Based on the 4 most recent consecutive data points,
  - If the 4 data points are all ABOVE the goal line, keep the current intervention and increase the goal
  - If the 4 data points are all BELOW the goal line, keep the current goal and modify the intervention
  - If the 4 data points are neither above or below the goal line, maintain the current goal and intervention and continue collecting/reviewing data

Note: This example applies when an increase in behavior or skill is the goal.

Intervention  
Began

Plan Change  
#1



# Rate of Improvement

- Involves calculating slope and comparing to an expected rate of change or improvement,(ROI)
- Calculating Slope
  - Last Score-First Score/# weeks between scores
  - Data management systems (e.g., AIMSweb)
  - Excel (e.g., Vanderbilt Graphing Excel Tool)
- Comparing to Expected Rates
  - Normative ROI's (national, district, local)
  - Data management systems (e.g., AIMSweb)
  - Published data
- Calculating a Ratio of Deficiency
  - Expected ROI/Obtained ROI
  - Ratio of deficiency < 1.0 indicates progress faster than expected.
  - Ratio of deficiency greater than 2.0 considered of concern.

# Sample Fluency Benchmark

**AIMSweb® Growth Table**  
 Reading - Curriculum Based Measurement  
 Multi-Year Aggregate

		Fall		Winter		Spring		
Grade	%ile	Num	WRC	Num	WRC	Num	WRC	ROI
1	90	12091	49	53350	78	55121	107	1.6
	75		22		47		80	1.6
	50		8		24		52	1.2
	25		2		13		28	0.7
	10		0		6		15	0.4
	<i>Mean</i>		18		34		57	1.1
	<i>StdDev</i>		25		31		37	0.3
2	90	48961	103	46244	129	52326	144	1.1
	75		79		103		119	1.1
	50		54		77		92	1.1
	25		27		52		68	1.1
	10		14		25		41	0.8
	<i>Mean</i>		56		78		93	1.0
	<i>StdDev</i>		35		39		40	0.1
3	90	44976	131	43192	148	49174	163	0.9
	75		103		124		139	1.0
	50		77		95		111	0.9
	25		49		66		82	0.9
	10		30		41		52	0.6
	<i>Mean</i>		78		96		110	0.9
	<i>StdDev</i>		39		42		43	0.1

ROI is Spring Score minus Fall Score (or Winter minus Fall) divided by 36 weeks (or 18 weeks)

# Goals for Rate of Improvement (ROI)

## Reading CBM

Grade	Reasonable	Ambitious
1	2.0	3.0
2	1.5	2.0
3	1.0	1.5
4	0.85	1.1
5	0.50	0.85
6	0.30	0.65

## Math CBM

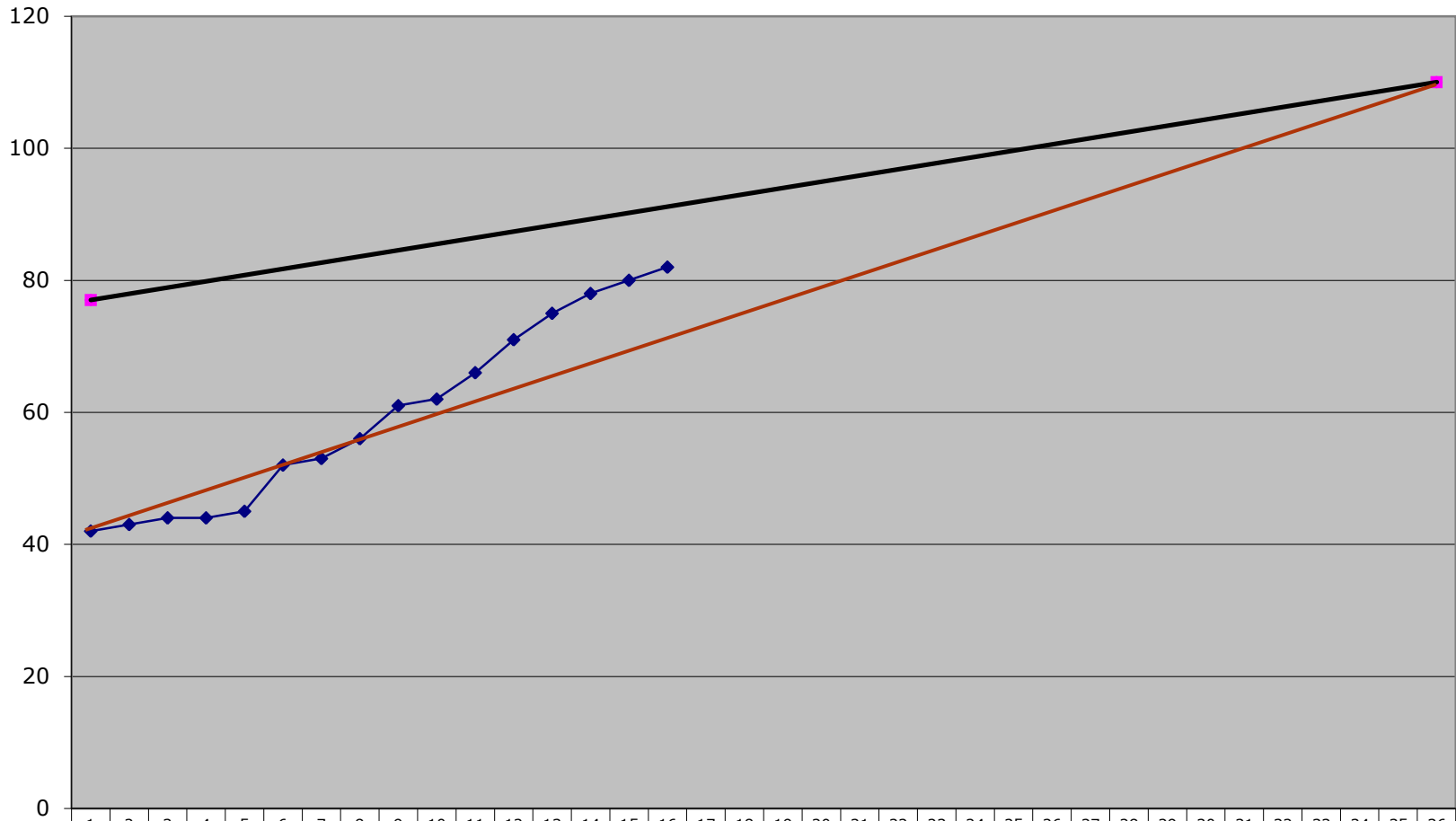
Grade	Reasonable	Ambitious
1	0.30	0.50
2	0.30	0.50
3	0.30	0.50
4	0.70	1.15
5	0.75	1.20
6	0.45	1.00

# An Example: Willy, a 3<sup>rd</sup> Grader

- R-CBM: Beginning Score=42; Most Recent Score=82
- Calculating Obtained Slope for Willy's Progress
  - Hand calculation,  $82-42/16 = 2.5$
  - Excel, 2.67
- Expected Slope or ROI
  - Using AIMSweb, 50<sup>th</sup> 3<sup>rd</sup> grader expected ROI=.90
- Comparing the two:
  - For Willy,  $.90/2.5=.36$ ; progress faster than expected.

# Willy

Willy's ROI = 2.5  
 Expected ROI = .90



	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	28	29	30	31	32	33	34	35	36
Willy	42	43	44	44	45	52	53	56	61	62	66	71	75	78	80	82																				
GOAL	77																																			110

# Another Example: Wayne, Willy's Peer

- R-CBM: Beginning Score=42; Most Recent Score=50
- Calculating Obtained Slope for Wayne's Progress
  - Hand calculation,  $50-42/16 = .50$
  - Excel, .53
- Expected Slope or ROI
  - Using AIMSweb, 50<sup>th</sup> 3<sup>rd</sup> grader expected ROI=.90
- Comparing the two:
  - Ratio of Deficiency for Wayne,  $.90/.50=1.8$
  - Greater than 2.0=concern



# Analysis of Trend and Level

- Analysis of trend and level

- Trend:

- Comparing student's ROI with expected ROIs

- Calculating ratio of deficiency

- Examples

- Willy making more progress (ROI=2.5) than expected, rate greater than that of students at the 75<sup>th</sup> and 90<sup>th</sup> percentile,
- Wayne (ROI=.50) not making expected rate of progress, making less progress than students at the 10<sup>th</sup> percentile (.60)

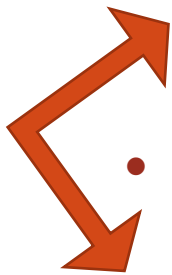
- Level:

- Comparing level of performance with expected level

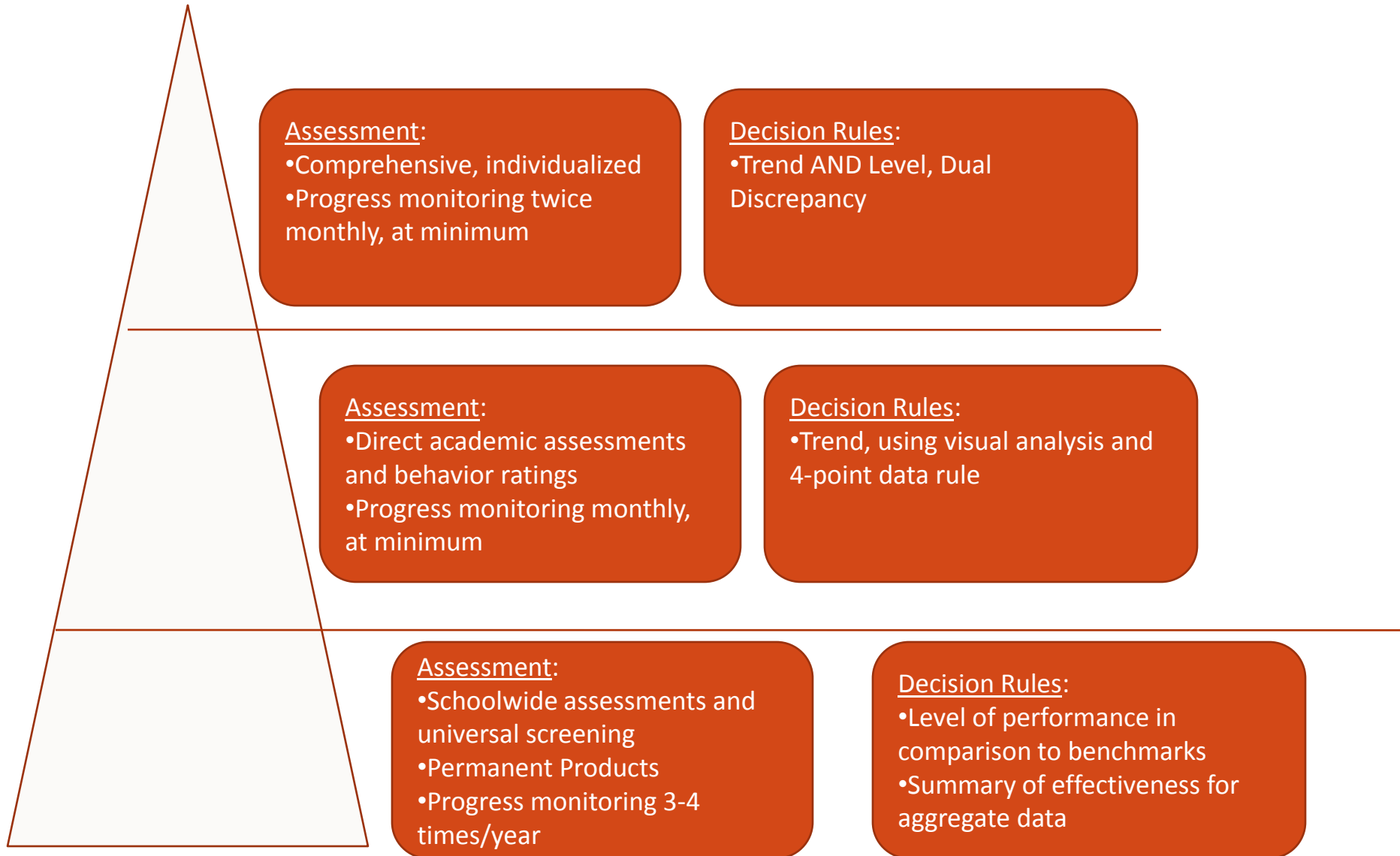
- Examples

- Willy's latest score of 82 below the Winter Benchmark of 95 (50<sup>th</sup> percentile)
- Wayne's latest score of 50 below the Winter Benchmark of 66 (25<sup>th</sup> percentile)

- Dual Discrepancy approach includes a student performing severely deficient in level and displaying a poor response to intervention.



# Assessment and Decision Rules Across Tiers



# RTI and Specific Learning Disability

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# RTI Litigation Checklist for SLD (Non-) Eligibility (Zirkel, 2008)

## **RTI Process**

- a. Scientific, research-based intervention
- b. Defined decision points/rules
- c. Continuous progress monitoring data
- d. Data to demonstrate appropriate instruction

## **Evaluation Process**

- a. Prompt request for consent and timelines followed
- b. Exclusionary factors ruled out, including lack of appropriate instruction
- c. At least 2 appropriately conducted observations
- d. Evaluation multifaceted, comprehensive, technically sound
- e. Student needs special education due to SLD

## **Evaluation Report includes**

- a. Statement of presence of SLD & basis for determination
- b. Relevant behavior noted & relationship to academic functioning
- c. Medical findings
- d. Achieve adequately or make sufficient progress
- e. Exclusionary factors
- f. Instructional strategies and student-centered data
- g. Documentation that parents notified of state policy, strategies, & rights
- h. Written certification by team members

## Elements of SLD (Lichtenstein,2008)

## Elements of Definition for SLD in Article 7, 511 IAC 7-41-12(a)

### Under-achievement

...does not achieve adequately...



### Specific Learning Disability Indicator

...insufficient progress..... when using a process based on the student's response to scientific, research-based intervention;

**OR**

...pattern of strengths and weaknesses... prohibited use of a severe discrepancy

### Exclusion of Other Factors

- (A) a visual, hearing, or motor disability;
- (B) a cognitive disability;
- (C) an emotional disability;
- (D) cultural factors;
- (E) environmental or economic disadvantage;
- (F) limited English proficiency; or
- (G) lack of appropriate instruction in reading or math evidenced by:
  - (i) data demonstrating that ...student was provided appropriate instruction in general education
  - (ii) ...repeated assessments of achievement at reasonable intervals...

## Elements of Definition for SLD in Article 7, 511 IAC 7-41-12(a)

## Evaluation Requirement for SLD in Article 7, 511 IAC 7-41-12(b)

### Under-achievement

...does not achieve adequately...

- 1) Current academic ach
- 2) Observation

...insufficient progress..... when using a process based on the student's response to scientific, research-based intervention;

- 5) Assessment of Progress

### Specific Learning Disability Indicator

OR

...pattern of strengths and weaknesses... prohibited use of a severe discrepancy

- 1) Current academic ach
- 6) Any other assessments...

### Exclusion of Other Factors

...does not include learning problems primarily the result of: ... (G) lack of appropriate instruction in reading or math evidenced by...

- 6) Any other assessments..
- 5) Assessment of Progress
- 3) Available medical info
- 4) Social/Developmental History

**Elements of Definition for SLD in  
Article 7,  
511 IAC 7-41-12(a)**

**Considerations and Potential  
Approaches**

....Insufficient progress to meet age or state approved grade level standards in one or more areas when using a process based on the student's response to scientific, research-based intervention;

- Documentation of Intervention Implementation (e.g., fidelity)
- Criteria/decision rule for determining lack of sufficient progress needs to be clearly articulated and valid for the purpose of identification of SLD.
- Dual discrepancy the method supported by Fuchs & Fuchs, NRCLD

## Elements of Definition for SLD in Article 7, 511 IAC 7-41-12(a)

## Considerations and Potential Approaches

.... A pattern of strengths and weaknesses in performance or 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. The M-team is prohibited from using a severe discrepancy between academic achievement and global cognitive functioning.

- Pattern is relevant to the identification of a SLD.
- Possible models/approaches
  - 1) Integrative Ability Analysis (Kavale & Flanagan),
  - 2) Ability-Achievement Consistency Model (Flanagan, Ortiz, Alonzo, 2007);
  - 3) Consistency-Discrepancy Model (Naglieri, 1999);
  - 4) Concordance-Discordance Model (Hale & Fiorello, 2004);
  - 5) Achievement Patterns (Fletcher, Lyon, Fuchs, & Barnes, 2007).
- “Specificity” of the disability shown by consistency between academic and cognitive weaknesses.
- Normative versus relative weaknesses and clinical significance.

# General Considerations

- What level of consistency will be expected at the corporation and/or special education cooperative?
- What professional development needs exist for staff?
- How will parents be meaningfully involved in the discussions and decision making?

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