



The following presentation by Doug Marston, Ph.D., Special Education Administrator in the Minneapolis Public Schools, was given at the Response to Intervention Symposium in Austin, Texas in April 2006. This PowerPoint is provided as a resource material by the Center on Instruction.

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2006

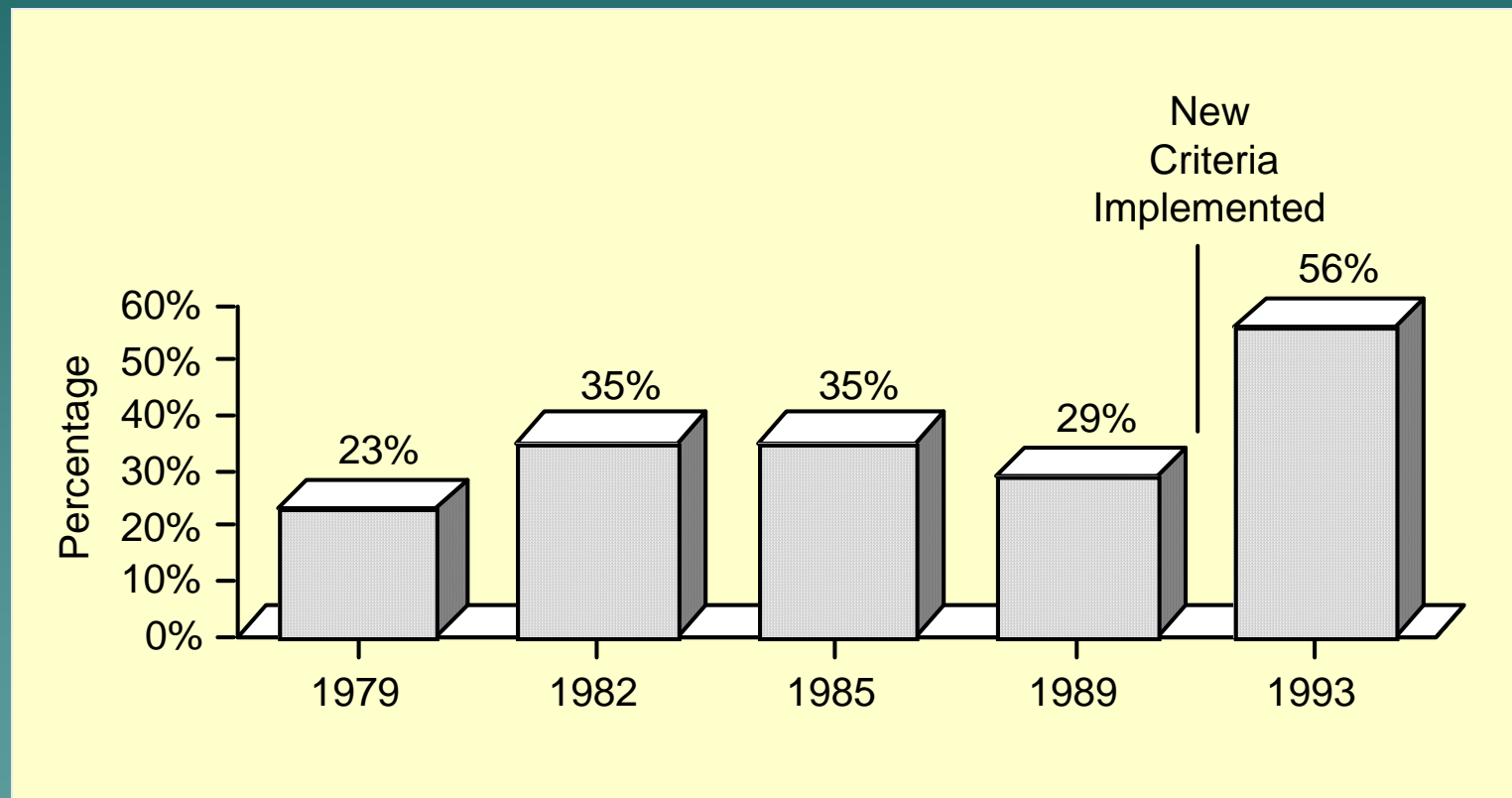


# Problem-Solving Model And Response to Intervention

# The Need for an Alternative Assessment Model

- Intelligence Test Issues
- Non-Discriminatory Procedures and Outcome Bias
- Limited Role for School Psychologists
- Link Assessment to Instruction

## Percentage of time spent testing by MPS school psychologists\*



\* Based on school psychology time studies by Dr. Andrea Canter

- ❑ Data-Based Decision-Making
- ❑ President's Committee on Excellence
- ❑ National Institute for Child Health and Development (NICHD) Program of Research.
- ❑ National Summit on Learning Disabilities (2001)
- ❑ National Research Council Panel on Minority Overrepresentation (Donovan & Cross, 2002)

# IDEAL Problem Solving Model

Bransford and Stein (1984)

Identifying the problem to be solved

Defining the problem

Exploring alternative solutions

Applying the chosen solution

Looking at the effects

A stylized, dark teal silhouette of a mountain range is positioned in the bottom right corner of the slide, partially overlapping the text area.

# Data-Based Problem-Solving Model

## Deno and Mirkin (1977)

Problem-solving steps	Assessment Procedures	Evaluation Decisions
Problem Identification	Observing/recording student performance	Does a problem exist?
Problem definition	Quantifying the perceived discrepancy	Is the problem important?
Designing intervention plans	Exploring alternative goals and solution hypotheses	What is the best solution hypothesis?
Implementing intervention	Monitoring fidelity of intervention and data collection	Is the solution attempt progressing as planned?
Problem solution	Requantifying the discrepancy	Is the original problem solved?

# Pre-referral Intervention and Effective Basic Skills Instruction

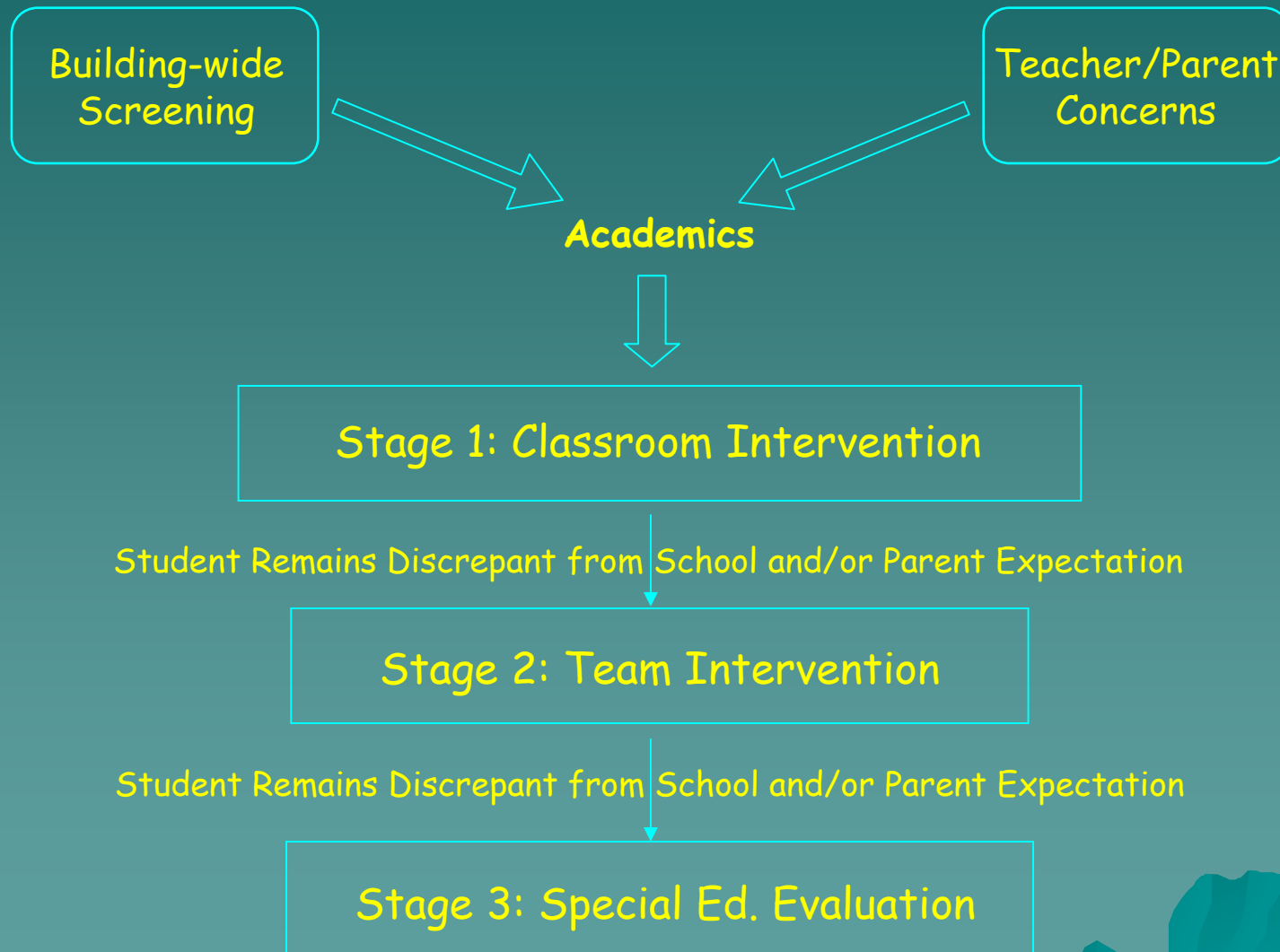
Rather than making referral decisions that are based on indirect and inferential test measures, eligibility decision is based on student response to instruction within a framework supported by:

- direct observation of student behavior within the natural context;
- a multi-disciplinary team consisting primarily of regular education teachers and related services personnel;
- a data-based assessment and evaluation focus; and
- a least restrictive environment perspective





# MPS Problem-Solving Model



# Problem Solving Model - Stage 1

## Classroom Intervention

- Baseline data
- Gather relevant information and consider exclusionary factors:  
interview parent, interview student,  
interview other staff, & record review
- Document classroom modifications  
and student's progress for 4-6  
weeks

# Baseline Data for John in February

- Read 6 wpm on 2<sup>nd</sup> grade CBM passages
- Identified 18 out of 100 basic sight words
- Said 12 segments in one minute on phoneme segmentation



# Classroom Interventions for John

- Small group instruction in early literacy skills for 15 minutes every other day
- Sixth grade peer tutor to review sight words daily





**MINNEAPOLIS PUBLIC SCHOOLS**  
**Problem Solving Model**

**CLASSROOM INTERVENTIONS**  
**Worksheet 1**

Student's Full Name: \_\_\_\_\_

Identification Number: \_\_\_\_\_ Grade: \_\_\_\_\_

Birthdate: \_\_\_\_\_

School: \_\_\_\_\_ Teacher: \_\_\_\_\_

Date: \_\_\_\_\_

**Specific Concerns:**

**Current Levels of Performance (Baseline Data):**

NALT or other test scores, e.g., CBM \_\_\_\_\_

**Student Strengths:**

**Relevant Health Information:**

**Information from Student File Review:** (Please include relevant school history & attendance problems if any)

**Information from Parent/Guardian**

Date of contact \_\_\_\_\_

**Information from Other Staff Members:**

**Information from Student:**

## CLASSROOM INTERVENTIONS

**Date started** \_\_\_\_\_

**Date ended** \_\_\_\_\_

**Intervention** ☐ reading ☐ math ☐ social/emotional ☐ other

**Results**

**Date started** \_\_\_\_\_

**Date ended** \_\_\_\_\_

**Intervention** ☐ reading ☐ math ☐ social/emotional ☐ other

**Results**

**Date started** \_\_\_\_\_

**Date ended** \_\_\_\_\_

**Intervention** ☐ reading ☐ math ☐ social/emotional ☐ other

**Results**

## Problem Solving Team - Stage 2

- Establish a systematic, team driven process for providing research-based intervention strategies and ideas to regular education teachers
- Maintain the integrity of the agreed activities through monitoring and documentation
- Create a data driven decision-making process that evaluates the effectiveness of the suggested interventions





# Problem Solving Model - Stage 2

## Team Intervention

- Problem Solving Team: general ed. teachers, title I teacher, counselor, social worker, psychologist, speech & language pathologist, sp. ed. teacher, and building administrator

## *Problem Solving Team Composition.*

"School staff members such as general education teachers, school psychologists, special education teachers, and administrators are ideally suited for membership on a PSM team because of their general and specific skills and knowledge in general education initiatives, effective instructional strategies, evidence-based programs/interventions, learning theories, research methodology, assessment, etc."

From Lau, Sieler, Muyskens, Canter, VanKeuren, & Marston. (2006). Perspectives on the use of the Problem-Solving Model from the viewpoint of school psychologist, administrator, and teacher. Psychology in the Schools, 43 (1), 117-127.

### "Specialist teachers"

- Provide data on student functioning in other school environments
- Enhance effectiveness of interventions across school settings

### Social Workers

- Have knowledge of and relationships with families, and resources
- May provide a source of direct support to students.

### ELL Teachers

- Assist in teasing apart language/cultural from learning difficulties
- Knowledge of best practice interventions for ELL students.
- Has unique point of reference from which to observe ELL students."

From Lau, Sieler, Muyskens, Canter, VanKeuren, & Marston. (2006). Perspectives on the use of the Problem-Solving Model from the viewpoint of school psychologist, administrator, and teacher. Psychology in the Schools, 43 (1), 117-127.

### "Cultural Liaisons/Representatives

- Provide information regarding cultural norms and expectations.
- Provide information regarding the student's native language skills, family dynamics within the cultural context, cultural attitudes towards schooling and individuals with disabilities, and the education system in the native country.

### Behavior Support Staff

- Provide insight into the function(s)/impact of student's behavior.
- Provide input for developing effective intervention strategies.

### Health Assistant/School Nurse

- Provide insight on the impact of health and medical factors on achievement and behavior.

### Parents

- Provide perspective regarding children's strengths and needs,
- Active participation enhances intervention effectiveness."

From Lau, Sieler, Muyskens, Canter, VanKeuren, & Marston. (2006). Perspectives on the use of the Problem-Solving Model from the viewpoint of school psychologist, administrator, and teacher. Psychology in the Schools, 43 (1), 117-127.

# Problem Solving Model - Stage 2

## Team Intervention

- Problem Solving Team: general ed. teachers, title I teacher, counselor, social worker, psychologist, speech & language pathologist, sp. ed. teacher, and building administrator
- Goals set by the Problem Solving Team and intervention selected
- Set up a following-up meeting, using 6 to 8 weeks as a guideline
- Document classroom interventions & student progress
- Make decisions based on specific intervention results; compared the student's progress with specific, appropriate goals

# Team Suggested Interventions for John

- Small group reading instruction with classroom and Title I teachers, focusing on beginning reading skills outlined by NRP, 45 minutes per day
- Modified spelling program to reinforce beginning sounds
- Classroom teacher will provide individualized explanation of directions for classroom assignment
- Worked 1:1 with a tutor from program on early literacy skills, 2x a week 20 minutes each after school





MINNEAPOLIS PUBLIC SCHOOLS  
Problem Solving Model

TEAM INTERVENTIONS  
Worksheet 2

Student's Full Name: \_\_\_\_\_

Identification Number: \_\_\_\_\_ Grades: \_\_\_\_\_

Birthdate: \_\_\_\_\_

School: \_\_\_\_\_ Teachers: \_\_\_\_\_

Present Team Members: \_\_\_\_\_

Date: \_\_\_\_\_

Step 1: Define Specific Behavior/Concern:

Current level of performance (frequency, level, accuracy)

Specific goal for intervention:

## INTERVENTION PLAN

**Ques:**

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Intervention Plan (What-Whom-How)	Date _____	Staff Responsible _____
<p>Follow Up - Result</p> <p>Date _____</p>		
<p>Decision <input type="checkbox"/> Continue intervention    <input type="checkbox"/> Modify intervention    <input type="checkbox"/> Refer to Sp. Ed. Evaluation</p>		

Intervention Plan (What-When-How)      Date \_\_\_\_\_      Staff Responsible \_\_\_\_\_

Follow Up - Result      Date \_\_\_\_\_

Decision   ☐ Continue intervention   ☐ Modify intervention   ☐ Refer to Sp. Ed. Evaluation



# Problem Solving Model - Stage 3

## Special Education Evaluation


- Review data from Stage 1 & 2 worksheets, including health history, relevant student's records and data, and response to intervention data
- Select procedures for a comprehensive evaluation to address cognitive, adaptive, and academic functioning
- Obtain additional information from parents
- Continue or modify instructional plans from Stage 2
- Determine eligibility

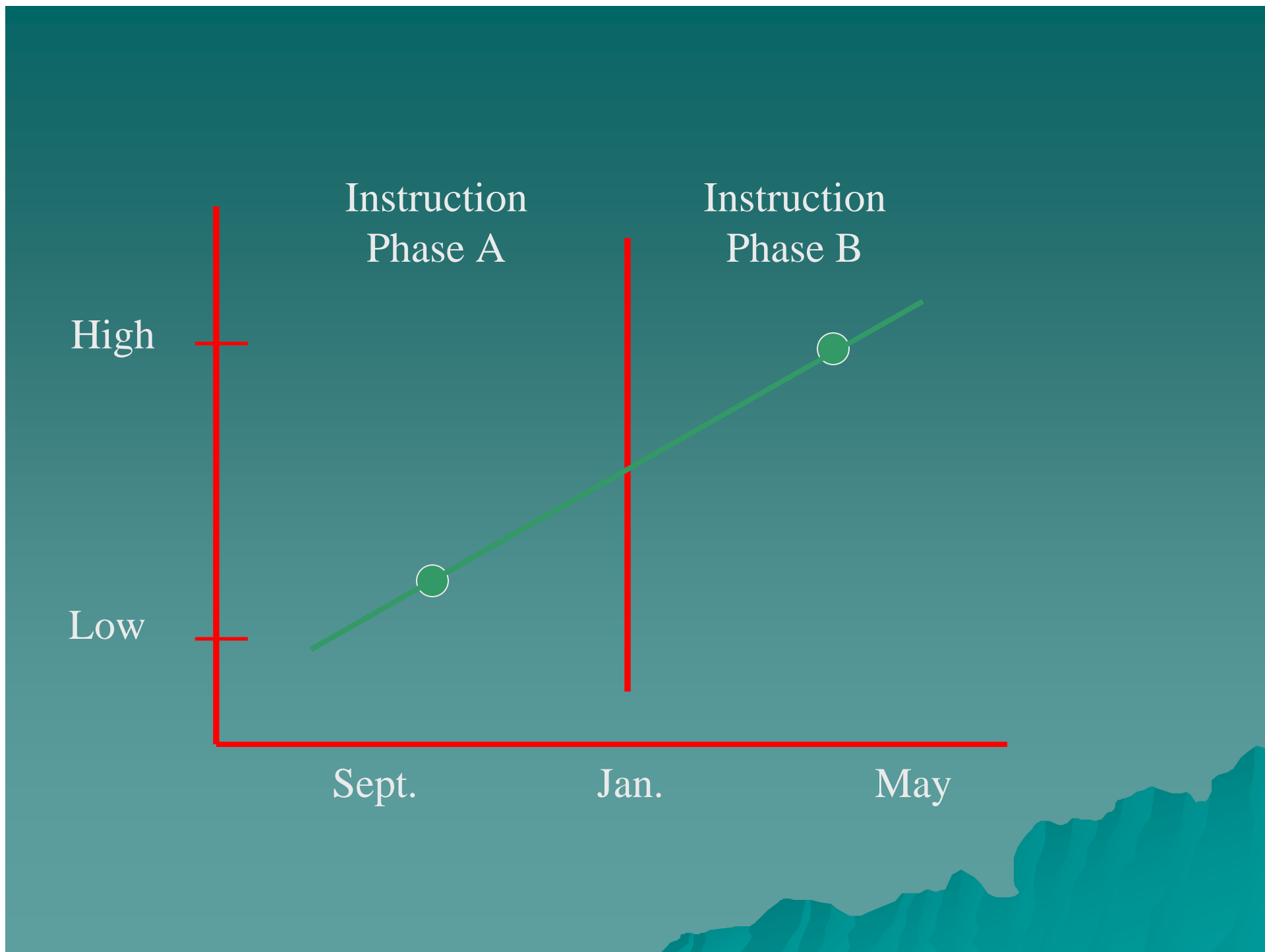
# An Essential Component of Response to Intervention is Progress Monitoring

Traditional assessment approaches  
may not provide this key element

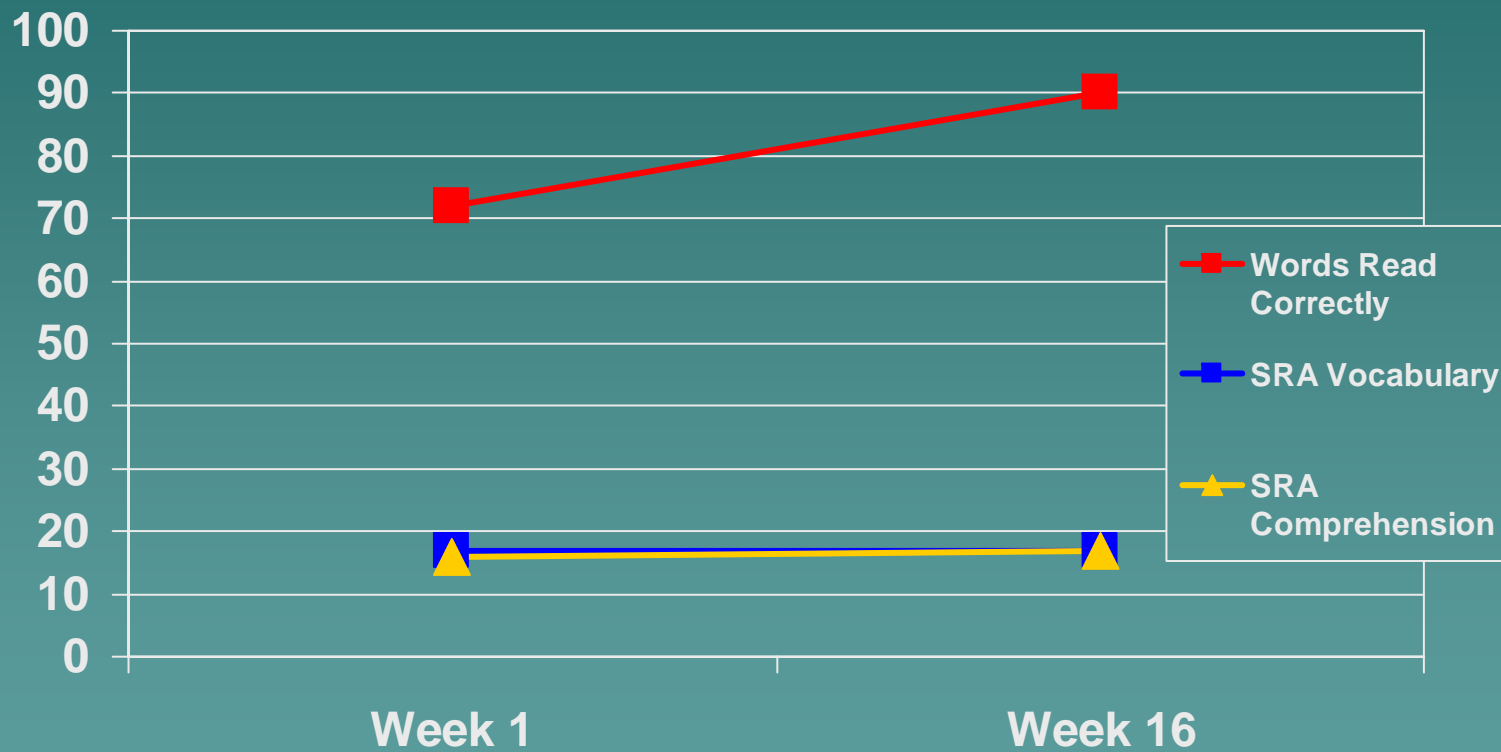
Curriculum-Based Measurement is  
an alternative

## Reasons for Searching for an Alternative Assessment Approach

- Instructional relevance of commonly used tests.
  - Curriculum/Assessment match.
  - Measuring change with the PreTest/PostTest model.
  - Sensitivity to measuring student growth.
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- A stylized, dark teal silhouette of a mountain range is positioned in the bottom right corner of the slide, partially overlapping the bottom edge of the text area.

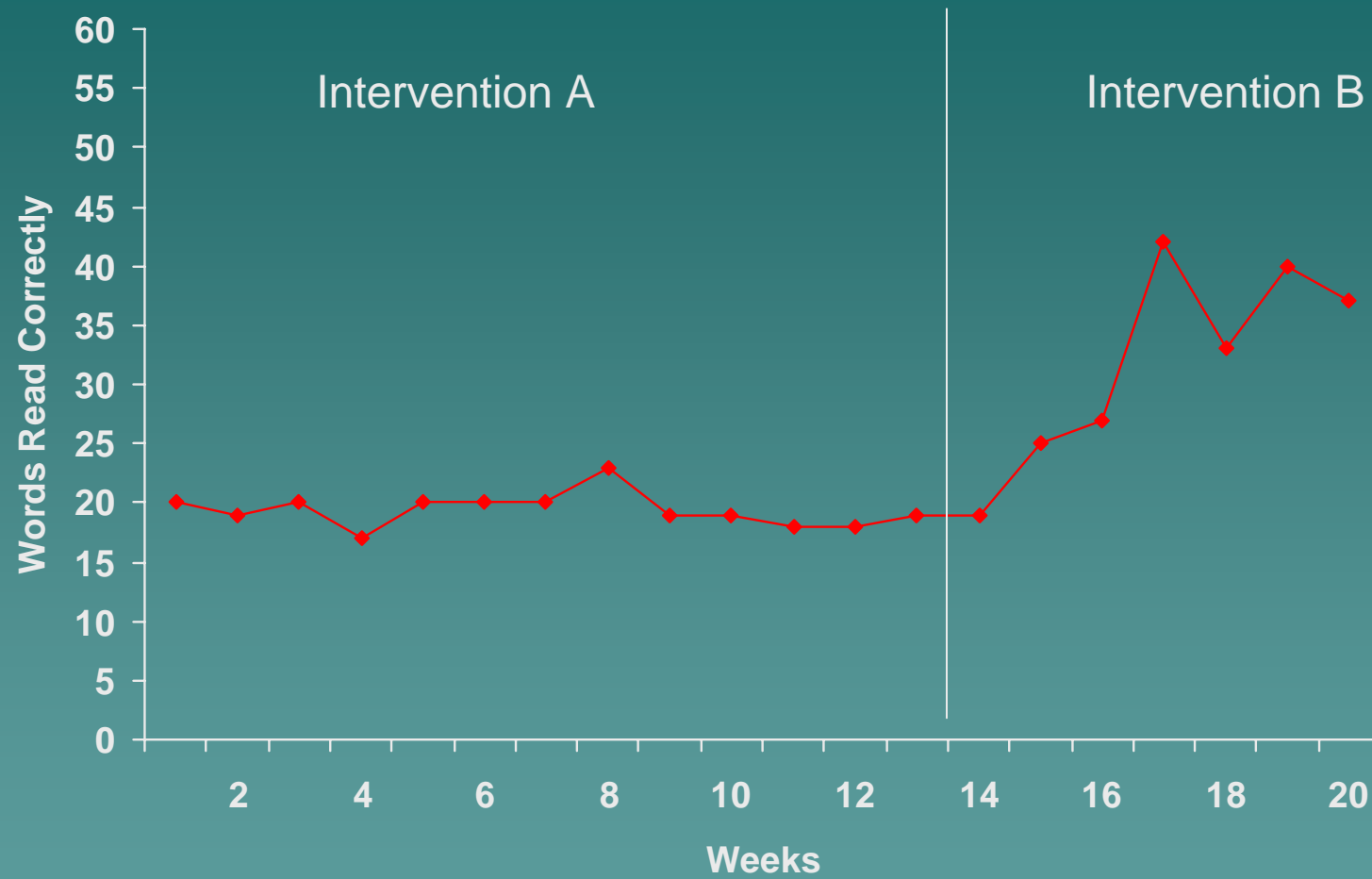


# Sensitivity to Reading Growth



# Curriculum-Based Measurement Primary Characteristics

- Direct Measurement
  - Repeated Measurement
  - Time Series Analysis
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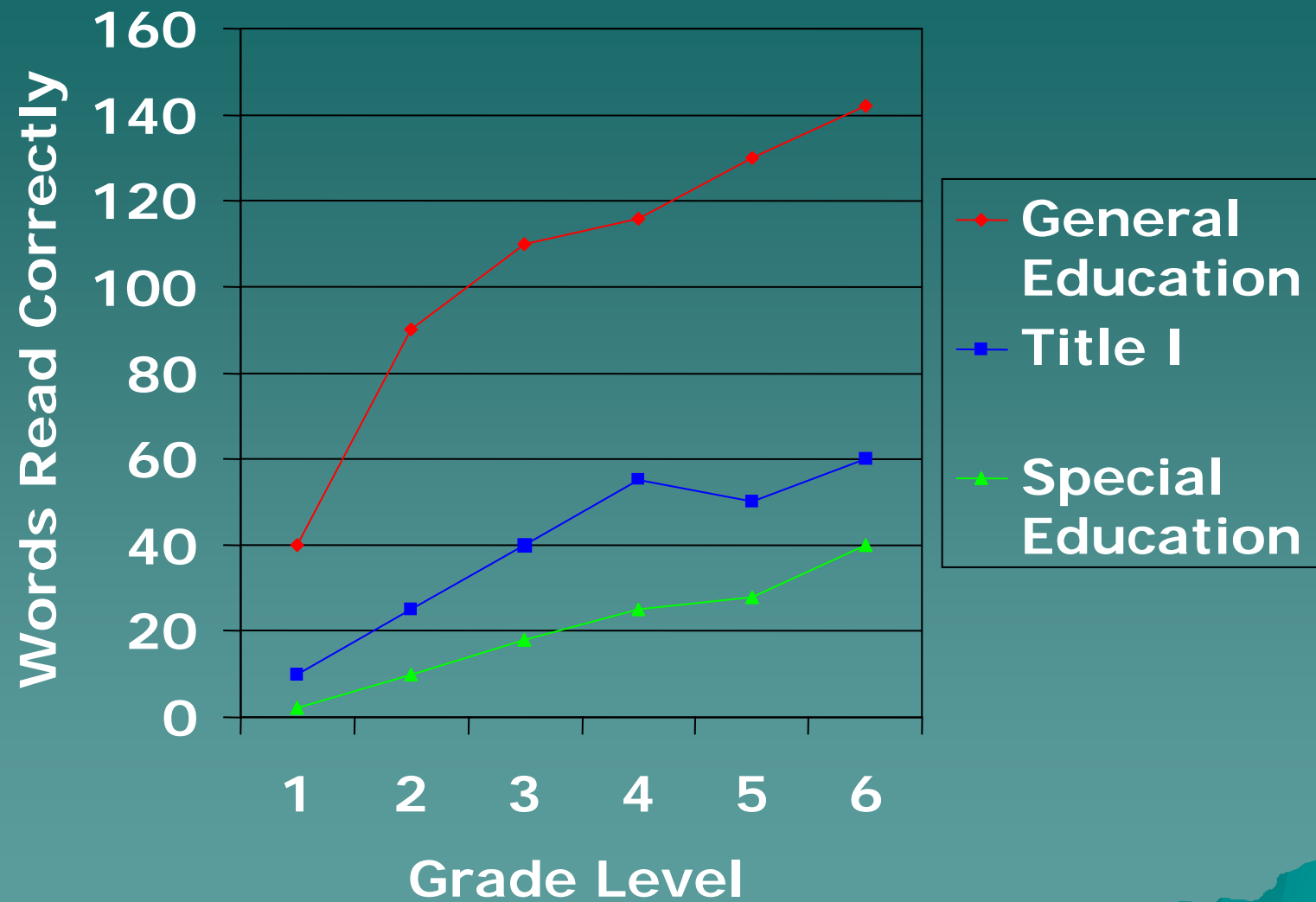
# Minneapolis Curriculum-Based Measurement

- At least 20 equivalent passages grades 1-6.
- Elementary passages from District Basal Reading Series.
- At least 20 equivalent passages grades 7-12.
- Secondary passages from local newspaper curriculum.

At Kindergarten multiple probes for the early literacy measures are:

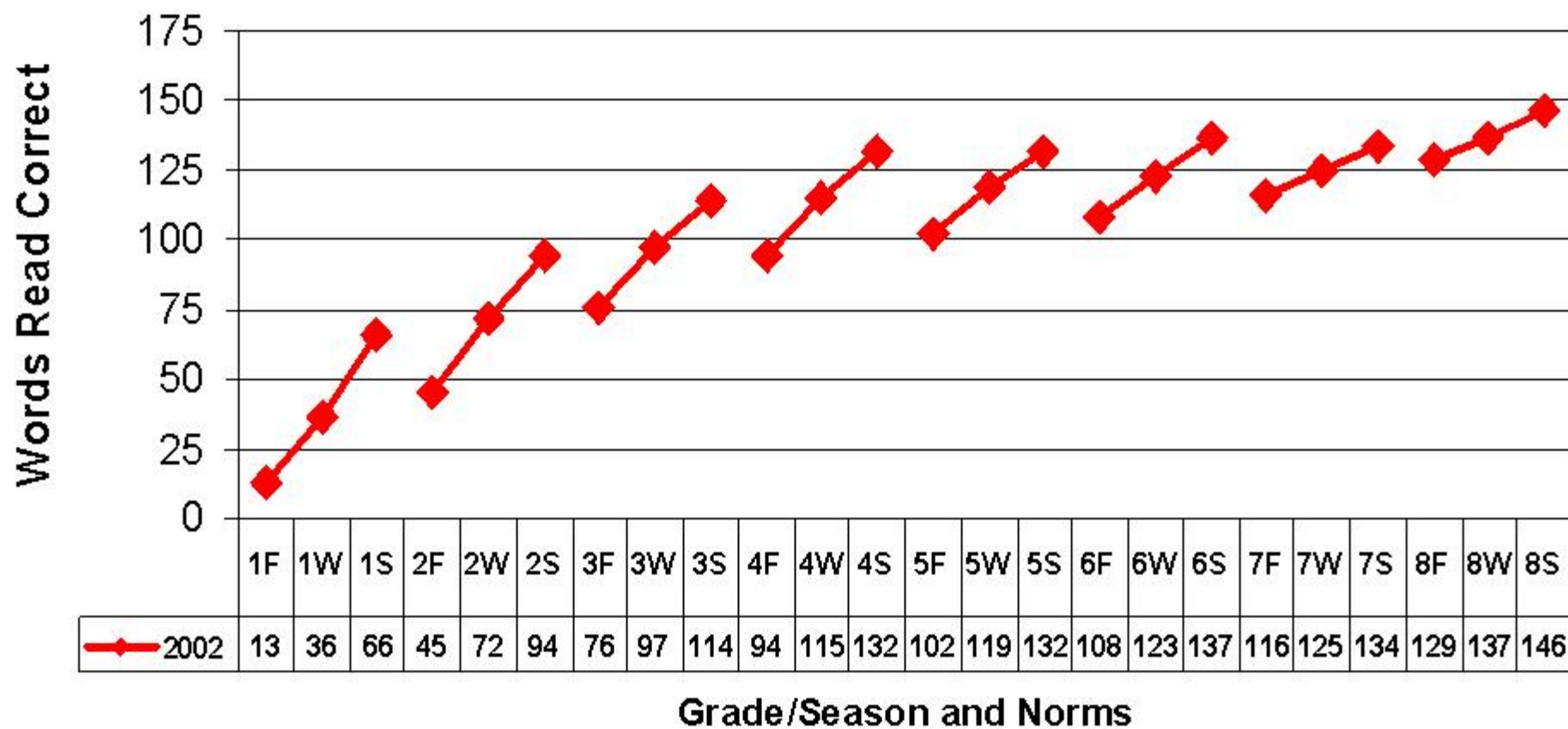
- Letter Sounds
- Onset Phonemes
- Phonemic Segmentation

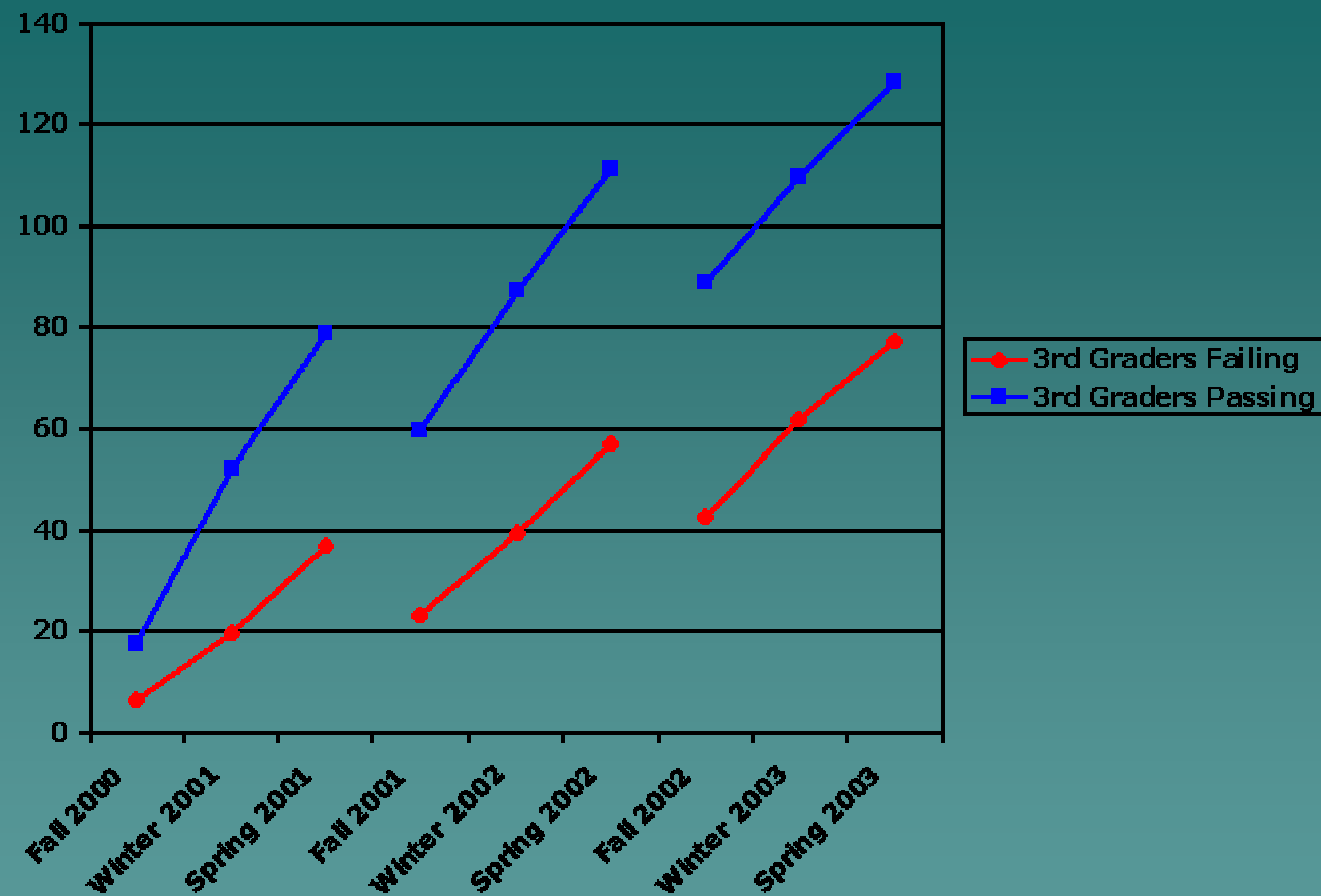




## Grade Level Norms: 65-85 Chart

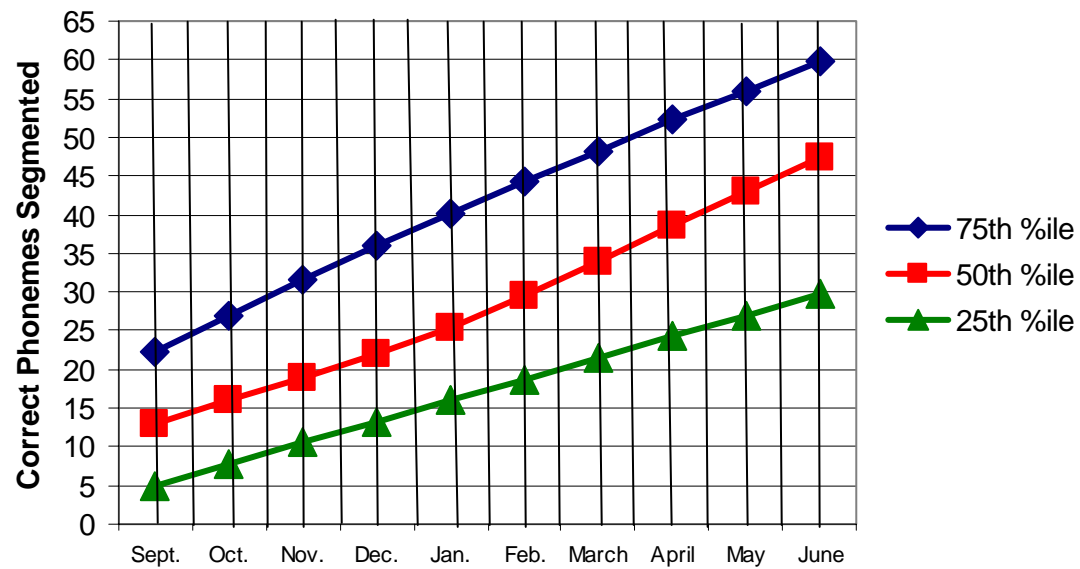
Minneapolis Public Schools





From Deno and Marston (in press). Curriculum-Based Measurement of Oral-Reading Growth: An Approach to Measuring Fluency? In S. Jay Samuels and Alan E. Farstrup (Eds.), *What Research Has to Say About Fluency Instruction*, International Reading Association.

### Grade 1 Phoneme Segmentation




From Minneapolis Public Schools (1999), Performance Assessment of Reading in the Problem Solving Model.

## Ten Most Frequently Cited Barriers to Implementation of Curriculum-Based Measurement (From Yell, Deno, & Marston)

1. Need for a variety of instructional strategies when data indicates a change is necessary.
2. Collecting data but not using it for instructional decisions.
3. CBM represents change which creates anxiety and resistance.
4. Ongoing training for general and special education staff.
5. CBM at secondary level.
6. Logistics of monitoring and making changes.
7. Staff resistant to making instructional changes.
8. Support necessary for new users.
9. Adequate staffing.
10. Concern over relationship between fluency and comprehension.

## Ideas for Saving Time, Increasing Efficiency and Minimizing Disruption of Small Group Instruction

- Create expectation with students that “reading aloud” is part of instruction.
  - Create charts and trend lines on district data base.
  - Establish progress monitoring as one of learning stations.
  - Use educational assistants and/or tutors
  - Measure during “independent level” instruction.
  - Use group administered procedures when possible.
- 
- A stylized, dark teal silhouette of a mountain range is positioned in the bottom right corner of the slide, adding a decorative element to the background.

# Planning for Implementation of Response to Intervention at the District Level



## Problem Solving Model Implementation Checklist for Trainer

- Intro training for building staff scheduled
- Review Trainers' Manual
- Meet with Support Teammate to delineate roles, activities, etc.
- Attend training session for special ed. staff
- Obtain handouts and overheads for intro training
- Complete intro training with building staff, provide CEUs
- Hold planning session with building support staff/ administration
- Establish Building Advisory Council
- Schedule simulation training sessions with building support team
- Schedule staff development session for regular ed. staff
- Survey building staff regarding staff development needs and interests
- Hold simulation training session
- Follow-up sessions with school staff, including data reports on students
- Schedule PSM team meetings
- Ongoing analysis of referral and identification data
- Periodic meetings with Building Advisory Council



# Intervention Training Modules for Classroom Teachers

Direct Instruction

Reciprocal Teaching

Curriculum Modifications

Repeated Readings

Peer Tutoring

Collaborative Teaching

Progress Monitoring with Curriculum-Based Measurement

Home-School Collaboration: Homework

Instructional Modifications for ADHD Students

Motivational Strategies for Academic Success

Developing and Using Student Contracts

Self-Management Strategies

Developing Behavior Plans

Mainstream Survival Skills Assessment and Interventions

# OCR Voluntary Compliance Agreement

Screening

Regular Education Interventions

Teacher Training

Special Education Evaluations

Problem Solving Model

A stylized, layered mountain range graphic in shades of teal and blue, located in the bottom right corner of the slide.

# MPS OCR - Problem Solving Model/

## **Funnel Model**

### **Classroom Organizer**

*Includes data such as the NALT, MBST oral reading, beginning kindergarten assessment, grade level expectations checklist, and school assessment.*

### **Classroom Organizer - Copy to Principal**

### **Complete Worksheet 1 of Problem-Solving Model (PSM)**

*Intervention worksheet completed for students identified on the OCR student list.*

### **Complete Worksheet 2 of PSM with School Team**

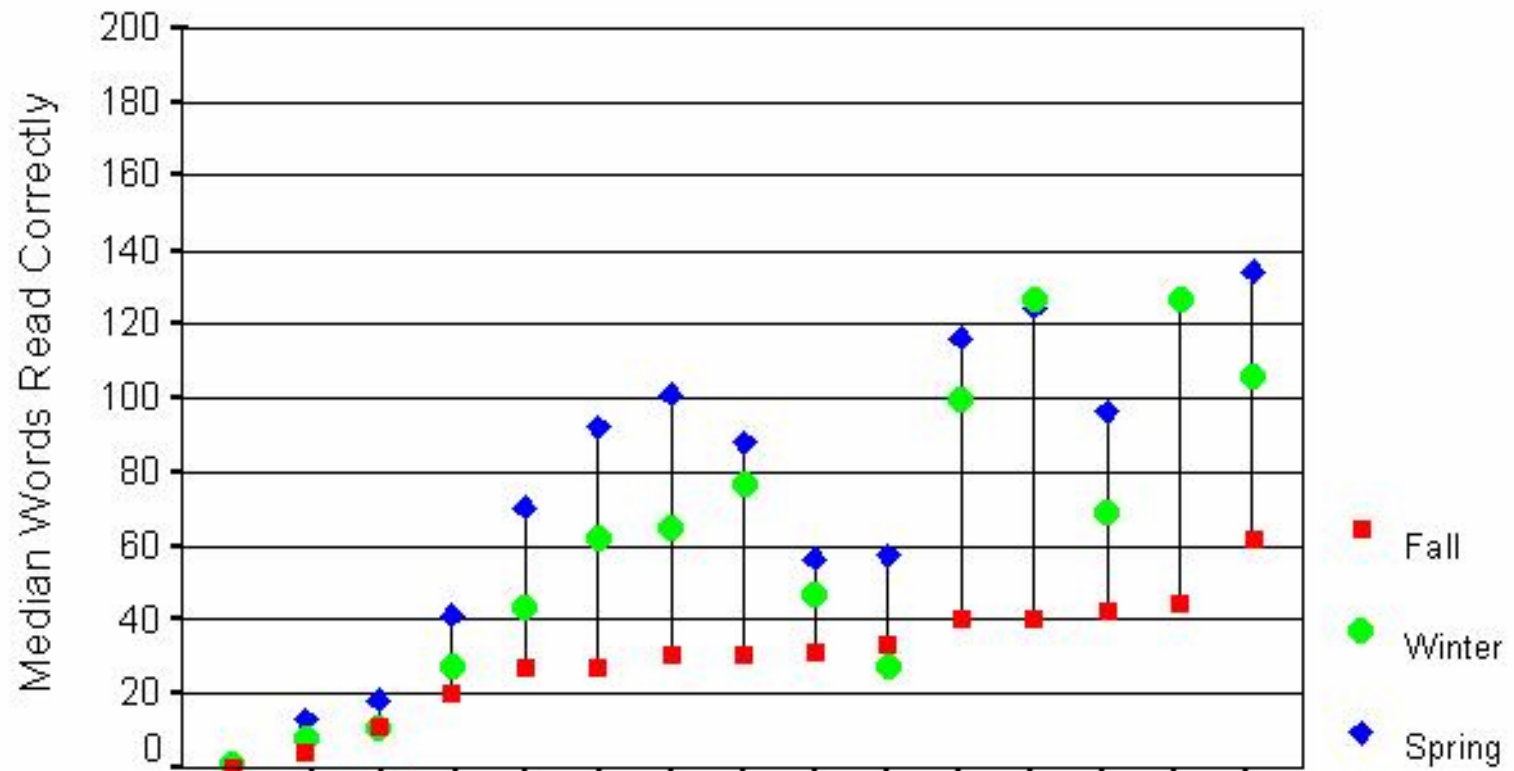
*Completed for students with significant needs which have not been successfully addressed by the interventions identified on worksheet 1.*

### **Complete Worksheet 3 of PSM with Special Education Team**

*Special education assessment for those students who have not made progress on the interventions identified on worksheet 2.*



## 2nd Grade, Room 113



# Problem Solving Model Outcomes

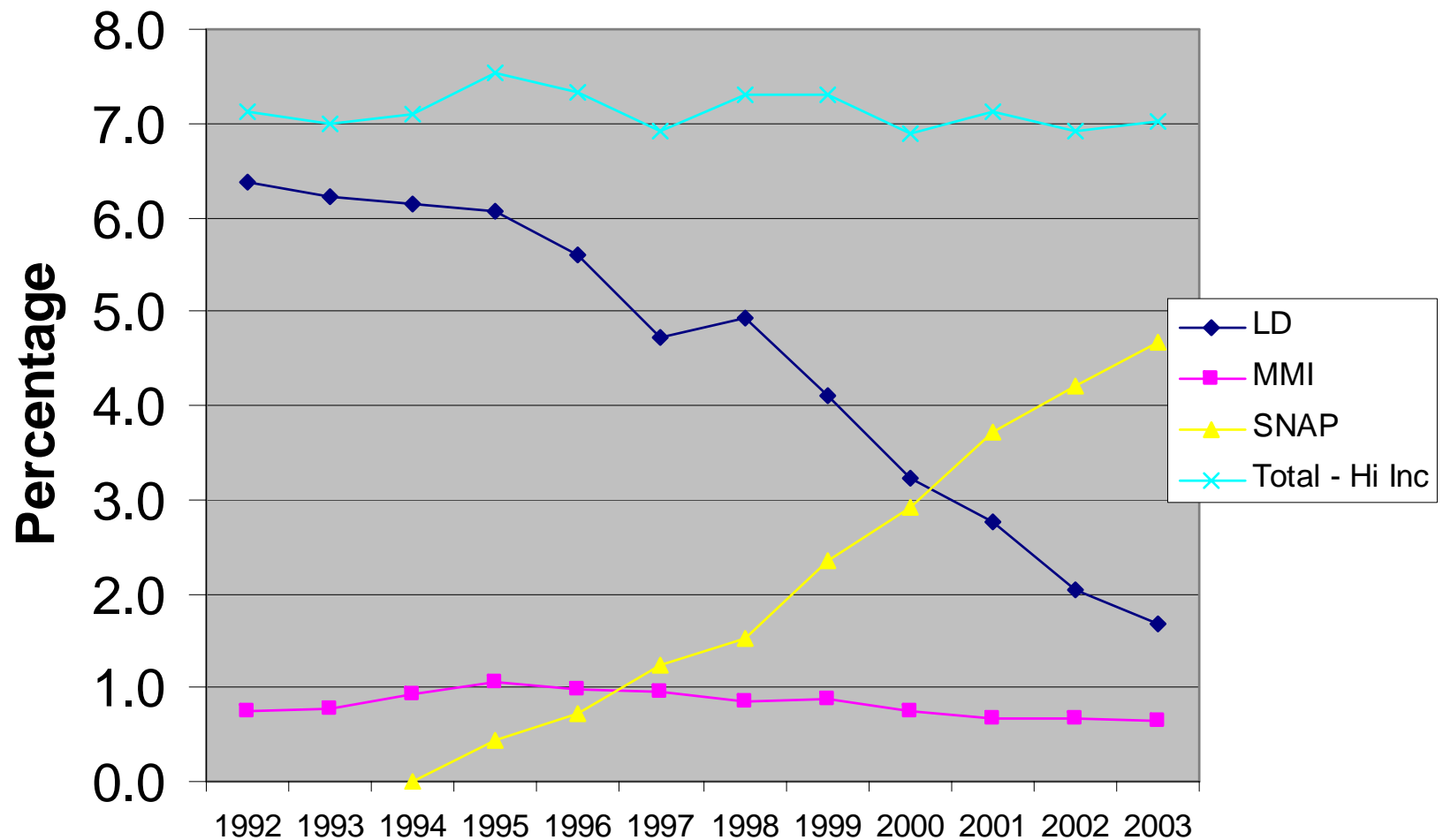
- Identification Rates
- Quality of Interventions
- Academic Outcomes
- Parent Satisfaction

# Identification Rates

- Identification of students with academic needs has remained stable over 12 years despite change in at-risk population and implementation of the alternative model in 1994
- One conclusion from an independent study of PSM was that students identified under PSM were similar to those identified using traditional methods (Reschly and Starkweather [1997])



# 12 Year History of High Incidence Disabilities in Minneapolis



From Marston, Muyskens, Lau, & Canter (2003). Problem solving model for decision-making with high-incidence disabilities. Learning Disabilities Research & Practice, 18, 187-200.

# Improved Instruction

- Reschly & Starkweather (1997) found that interventions used at Stage 2 at PSM sites were superior to those at traditional sites
- Deno, Grimes, Reschly & Shrag (2001) reviewed Minneapolis PSM and concluded that "The PSM provides instructionally relevant information rather than traditional data that are only relevant for determination of a student label and eligibility for special education"

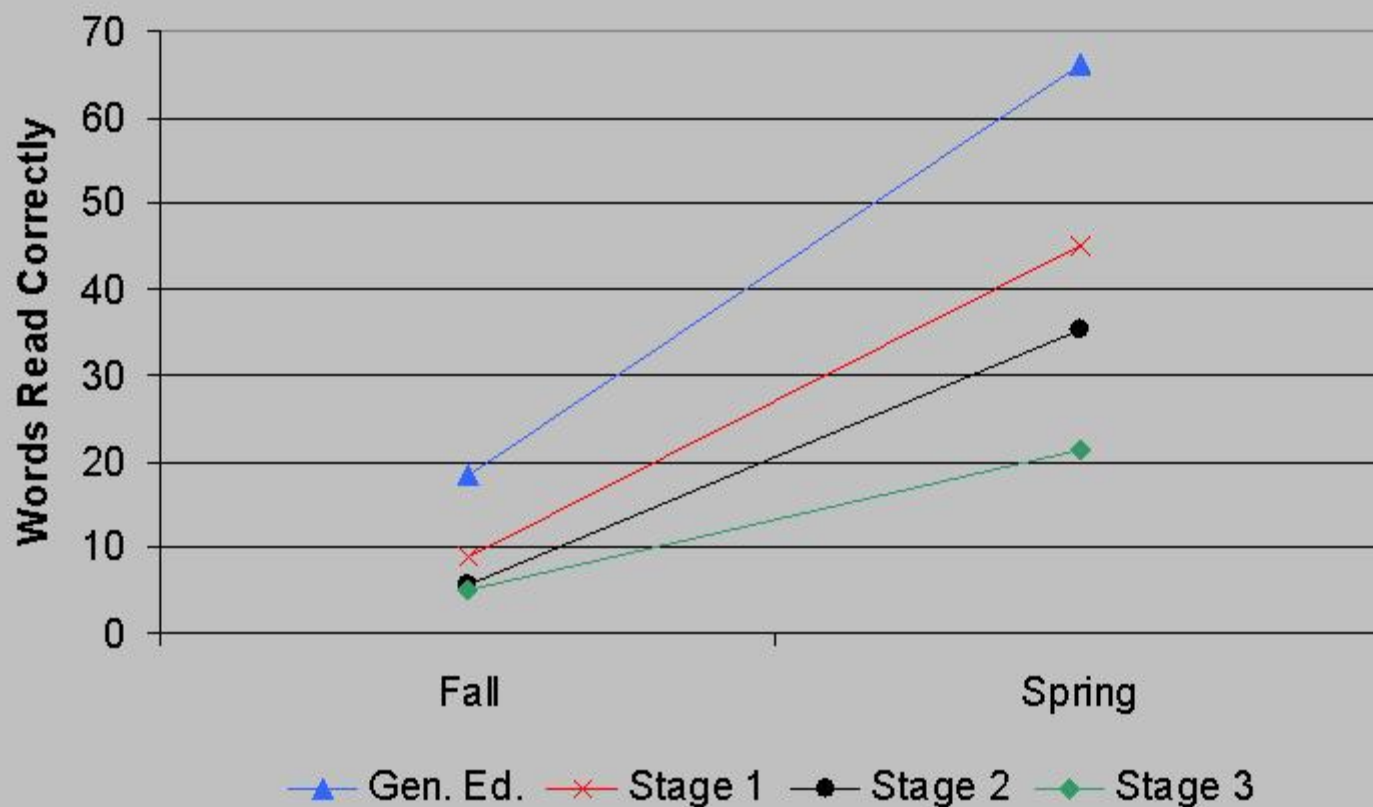




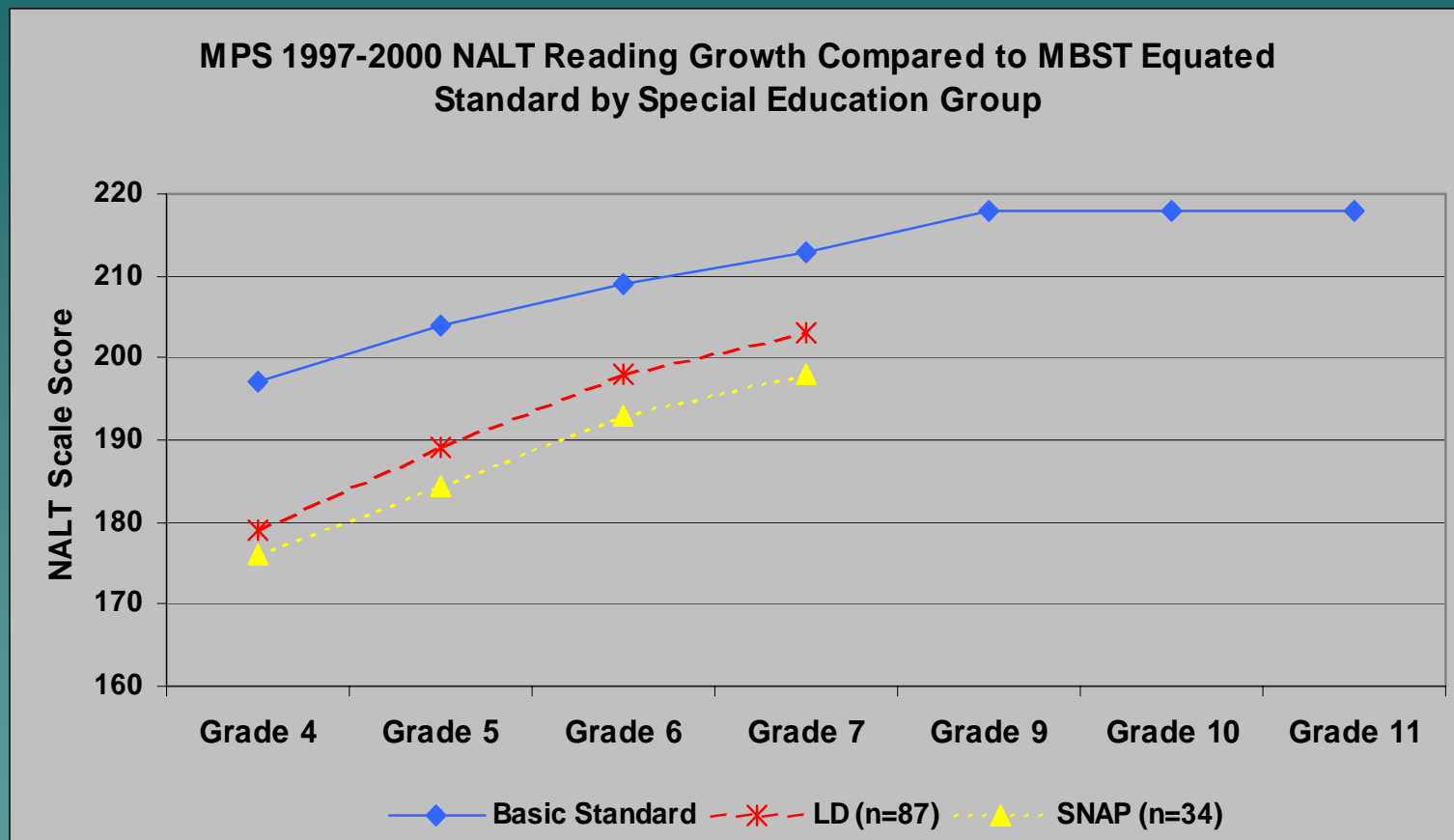
# Academic Outcomes

- Typically, students at each stage of PSM show different level and slope of performance on CBM
- Students identified using PSM show similar academic needs as traditional LD students

### Fall to Spring CBM Growth for 1st Graders at Different Levels of PSM

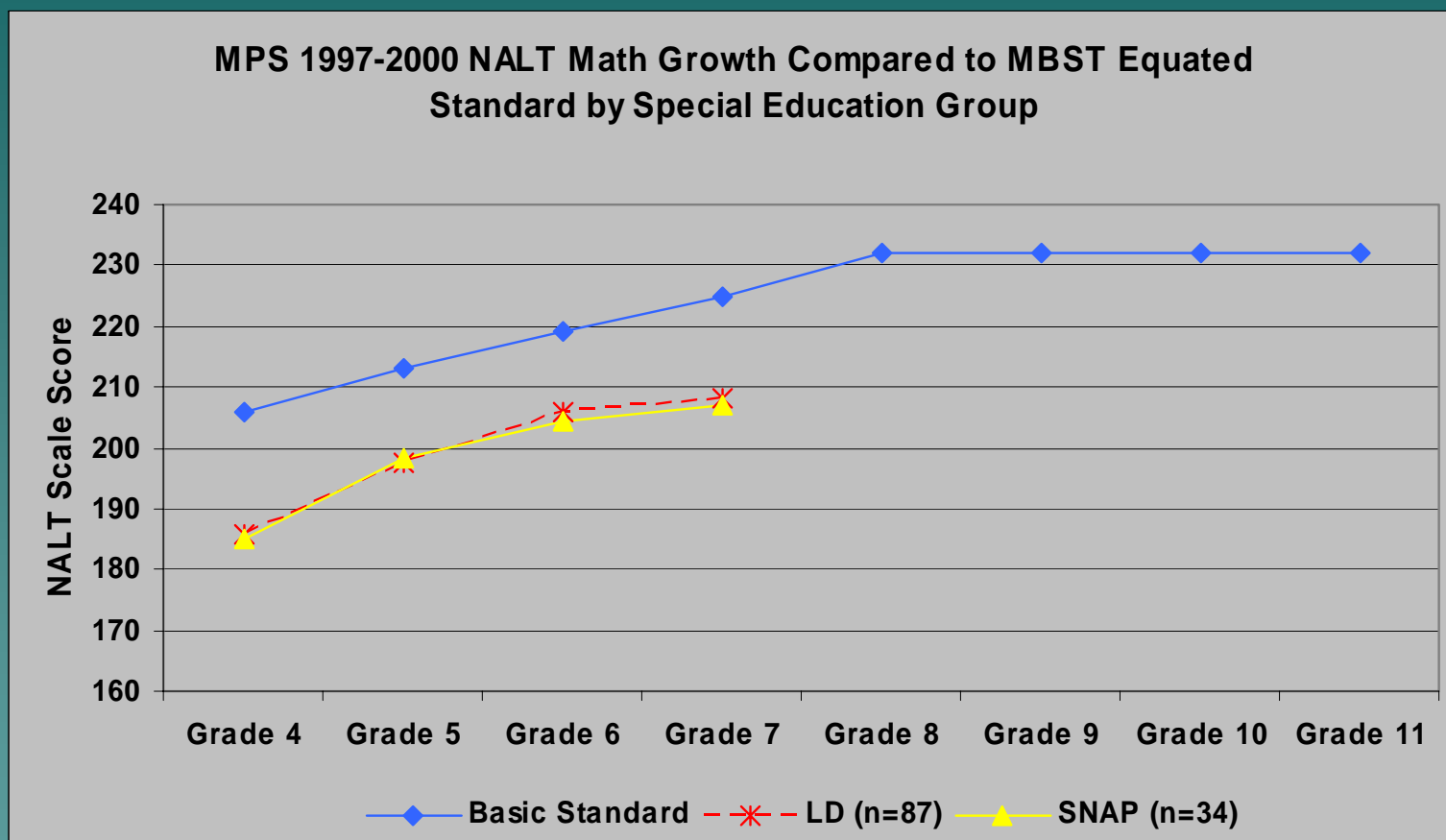


From Marston, Muyskens, Lau, & Canter (2003). Problem solving model for decision-making with high-incidence disabilities. Learning Disabilities Research & Practice, 18, 187-200.



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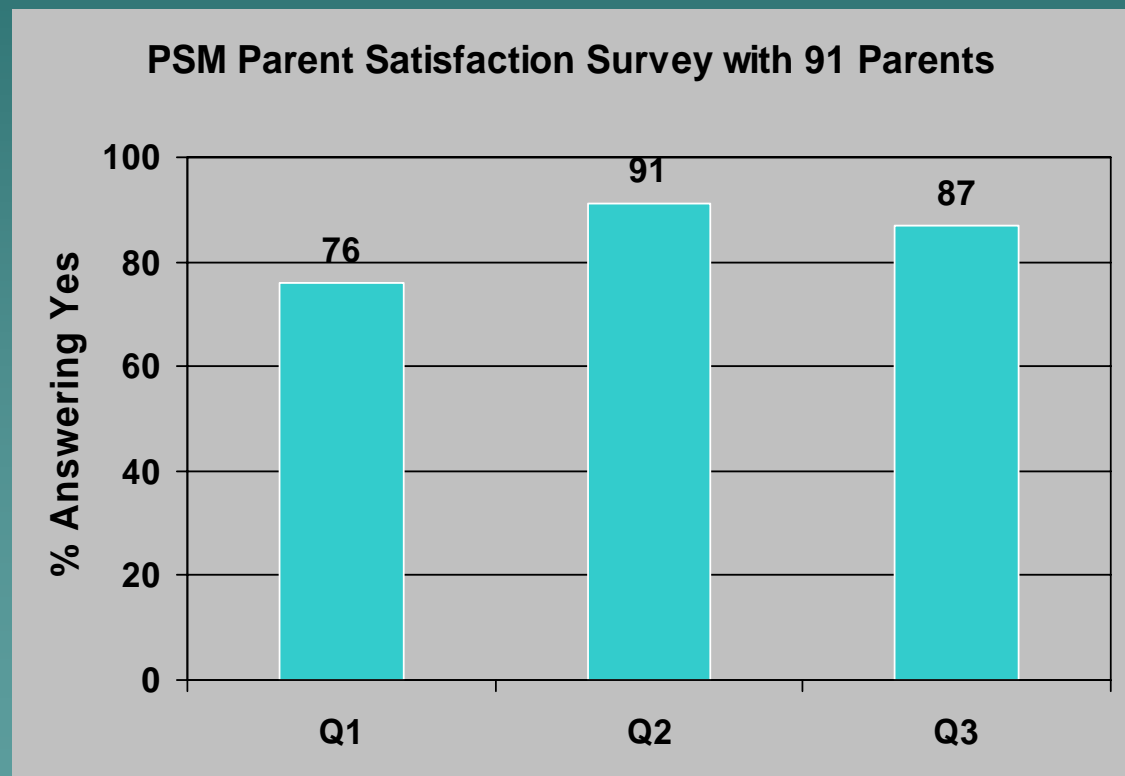


# Parent Satisfaction

Q1. Do you think your child's assessment for determining eligibility for special education was useful?

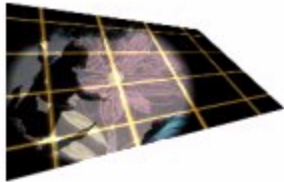
Q2. Your child is attending a school that does not use labels such as "Learning Disabled" or "Mentally Impaired." Are you satisfied with this approach?

Q3. Are you satisfied with the special education services your child is receiving?



# Website Implementation

The background is a solid teal color. In the bottom right corner, there is a stylized silhouette of a mountain range in a slightly darker shade of teal.



## The Office for Civil Rights

Voluntary Compliance Agreement



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Welcome! Please log in with your  
User Name and Password below.

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Password:

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Enter your  
**Username** and  
**Password** and  
then click **Login**

#### NOTICE! ACCESS RESTRICTED

Data Privacy Laws\* restrict access to data on students. Any educational information that contains individually identifying student data is restricted to employees who have a legitimate need for access as a result of their job duties and functions.

*\*Minnesota Statutes, Chapter 13*

**!!MBST Test Coordinators!!**

**Go to Reports--Summer Session MBST 2003 to get List of Summer Kids and MBST Status!**

**!!!Use Internet Explorer if you wish to PRINT any of the OCR screens!!**

**OCR DUE DATES FOR 2003-2004-- October 10, 2003/January 23, 2004/May 22, 2004**

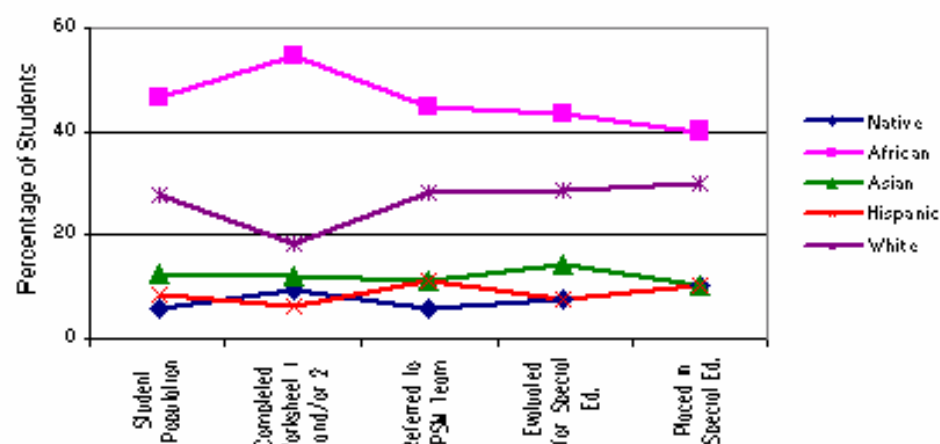
## OCR Referral/Eligibility Data (Initial School Referrals) for MPS School: 02/03

MPS School was asked to screen their entire school during the 02/03 school year. Of the 252 students, 33 students were identified as needing further intervention. The data reported by the school staff members indicate that 18 students were initially referred by the school to the problem solving team during the school year, and 10 of these students were placed in special education.

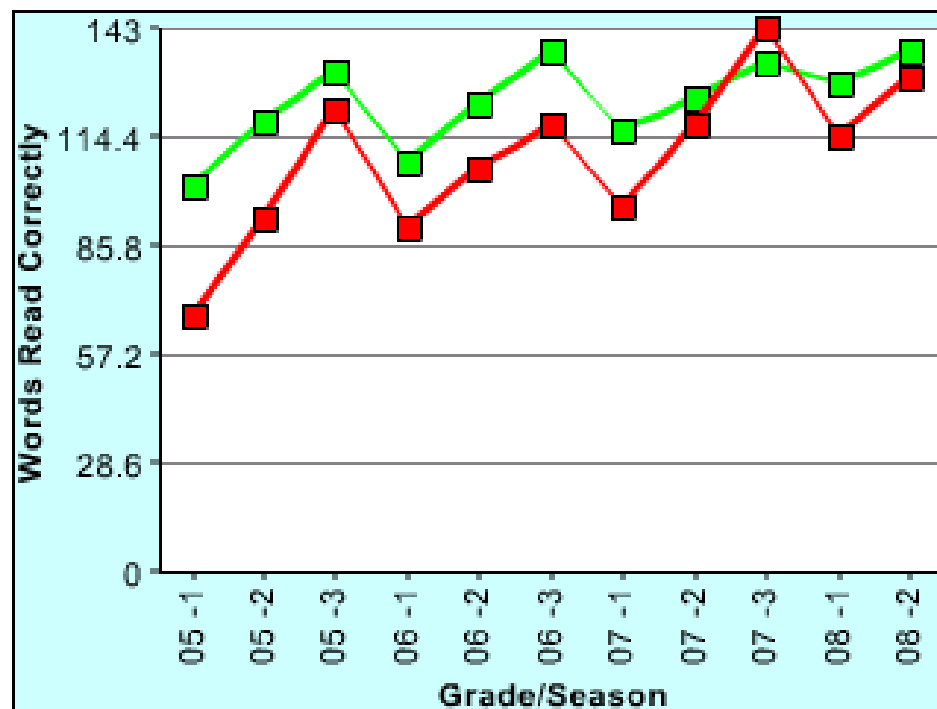
### Percentage and Number of Students at Each Stage of the OCR Process by Ethnicity (Ethnic Proportion within Each Stage)

	Student Population		Completed Worksheet 1 and/or 2		Referred to PSM Team		<sup>1</sup> Evaluated for Special Ed.		<sup>2</sup> Placed in Special Ed.	
	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)
Native	5.6	(14)	9.1	(3)	5.6	(1)	7.1	(1)	10	(1)
African	46.4	(117)	54.5	(18)	44.4	(8)	42.9	(6)	40	(4)
Asian	12.3	(31)	12.1	(4)	11.1	(2)	14.3	(2)	10	(1)
Hispanic	8.3	(21)	6.1	(2)	11.1	(2)	7.1	(1)	10	(1)
White	27.4	(69)	18.2	(6)	27.8	(5)	28.6	(4)	30	(3)
<b>Total</b>		<b>252</b>		<b>33</b>		<b>18</b>		<b>14</b>		<b>10</b>

### OCR Referral/Eligibility Data for MPS School





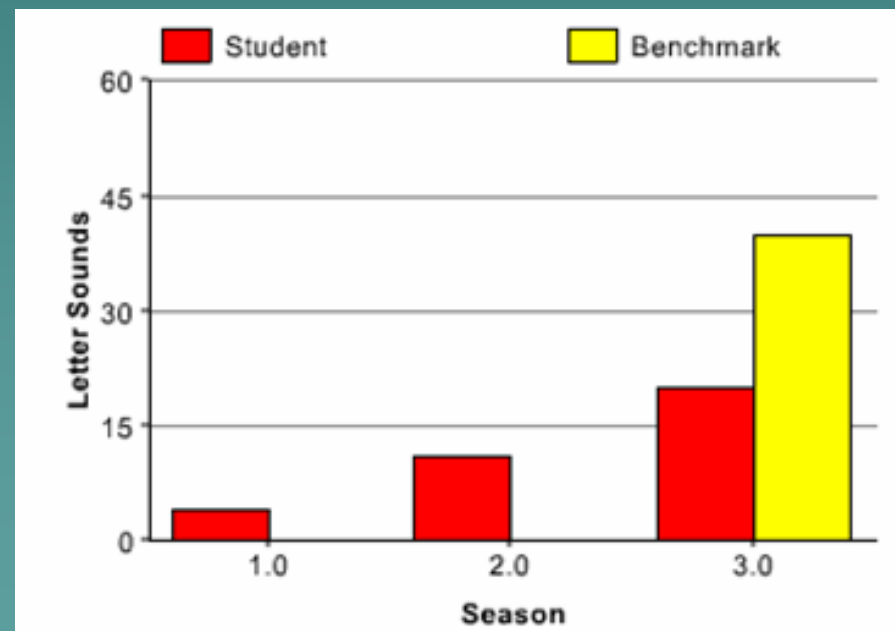


Legend	
Student	<span style="color: red;">■</span>
Target (65th Percentile)	<span style="color: green;">■</span>

Season	Letter Sounds	Letter Sounds Benchmark	Onset Phonemes	Onset Phonemes Benchmark	Phoneme Segment	Phoneme Segment Benchmark	Number Naming
Fall	4						14
Winter	11		22	18			
Spring	20	40			14	35	35

### Graph Growth

[Click Here to Download Data!](#)



## Minneapolis Classroom Intervention Worksheet

<b>FORM DATES:</b>	Date Started: (mm/dd/yy) <input style="width: 80px;" type="text"/>	Date Finished: (mm/dd/yy) <input style="width: 80px;" type="text"/>
<b>REVIEW CUMULATIVE FILE / RELEVANT SCHOOL HISTORY:</b>		
<b>TALK WITH STAFF:</b>		
<b>INTERVIEW STUDENT:</b>		
<b>INTERVIEW PARENT:</b>		
<b>CONCERNS: (BE SPECIFIC)</b>		
<b>CURRENT LEVELS OF PERFORMANCE: (BASELINE DATA)</b>		
<b>STUDENT STRENGTHS:</b>		
<b>RELEVANT HEALTH INFORMATION:</b>		
<b>PARENT/GUARDIAN INFORMATION:</b> Parent/Guardian(s) name(s):		
<b>FIRST INTERVENTION TRIED/RESULTS:</b>		
<b>SECOND INTERVENTION TRIED/RESULTS:</b>		
<b>THIRD INTERVENTION TRIED/RESULTS:</b>		
<b>Were Any of the Interventions Successful?</b>		

## Ideas for Successful Implementation

- “Encourage participation by key stakeholders during planning and implementation.
- Strong administrative support in staff development, instructional integrity, and data collection.
- In-depth staff development with mentoring, modeling, and coaching.
- Follow-up trainings at beginning of year.
- Manual outlining procedures and materials necessary.
- Build PSM/RTI into school schedule and SIP process.”

From Lau, Sieler, Muyskens, Canter, VanKeuren, & Marston. (2006). Perspectives on the use of the Problem-Solving Model from the viewpoint of school psychologist, administrator, and teacher. Psychology in the Schools, 43 (1), 117-127.

## *PSM Process:*

- “Establish a diverse PSM team that includes both general education teachers as well as special education specialists.
- Designate at least one, preferably two, PSM team members who are willing to take the responsibilities to organize and maintain the PSM process. Ideally, one of these team members is a general education teacher.
- Schedule no more than three students on the agenda for each 1-hour PSM meeting.
- Use technology such as web-based forms, on-line data collection, and free secure access after work from home.
- Allow staff members who serve on the PSM team count their service on the team as one of their committee responsibilities.
- Parents must be informed about and included in the process.
- Focus must be not only on interventions for individual students but also on system level interventions that best utilize a building's resources. For instance, establish a building-wide intervention system in place when there is a large number of a student experiencing similar academic difficulties.”


From Lau, Sieler, Muyskens, Canter, VanKeuren, & Marston. (2006). Perspectives on the use of the Problem-Solving Model from the viewpoint of school psychologist, administrator, and teacher. *Psychology in the Schools*, 43 (1), 117-127.

## *Support and Training.*

- “Communicate with and encourage participation by key stakeholders (teachers, parents, and community members), ideally during planning, implementation, and evaluation stages.
- Obtain staff buy-in and include teachers and (if appropriate) parents in all decision making.
- Solicit and reinforce strong administrative support for the model (e.g., attend PSM team meetings and model the process) and expect administrators to hold staff accountable for treatment efficacy and data collection.
- Provide in-depth training beyond introductory PowerPoint presentations; and provide mentoring, modeling, and coaching that assists teachers in understanding and implementing them in going through the process. Ideally, district would invest a team of “experts” that would go into buildings to provide consultation and training.
- Plan to hold periodic follow-up trainings for all staff minimally at the beginning of each school year.
- Prepare a district manual detailing all the procedures, expectations, specific paperwork involved at each stage.
- Provide time for planning, training, meeting, and evaluating.”

From Lau, Sieler, Muyskens, Canter, VanKeuren, & Marston. (2006). Perspectives on the use of the Problem-Solving Model from the viewpoint of school psychologist, administrator, and teacher. Psychology in the Schools, 43 (1), 117-127.

# Improving Future Implementation

- Collaboration - General Education needs to be involved in the development of the model from the beginning. For example, Stage II interventions could be provided in collaboration with Title I services.
  - Focus on Timelines - Need to identify a reasonable length of time for interventions prior to special education consideration.
  - Data Collection - Response to intervention is measured through good data collection. Data systems need to be implemented across General and Special Education and should be uniform and seamless.
- 
- A stylized silhouette of a mountain range in shades of teal, located in the bottom right corner of the slide.

# Improving Future Implementation

- ◆ Fidelity of Treatment – Intervention must be implemented as intended.
  - One way to improve is to use a screening and “standard protocol” approach to intervention (see Vaughn, Linan-Thompson, & Hickman, 2003). For example, use benchmarks for reading achievement. For those students who don’t attain the benchmarks, a standard supplemental intervention is implemented
  - Treatment fidelity can also be improved using a coaching model with classroom teachers.