



2006

Summer Institute
on Student Progress Monitoring



Progress Monitoring in the Context of Responsiveness-to- Intervention

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What Is Responsiveness-to-Intervention (RTI)?

- Two methods for identification of students with learning disabilities:
 - Traditional IQ/achievement discrepancy
 - Responsiveness-to-intervention

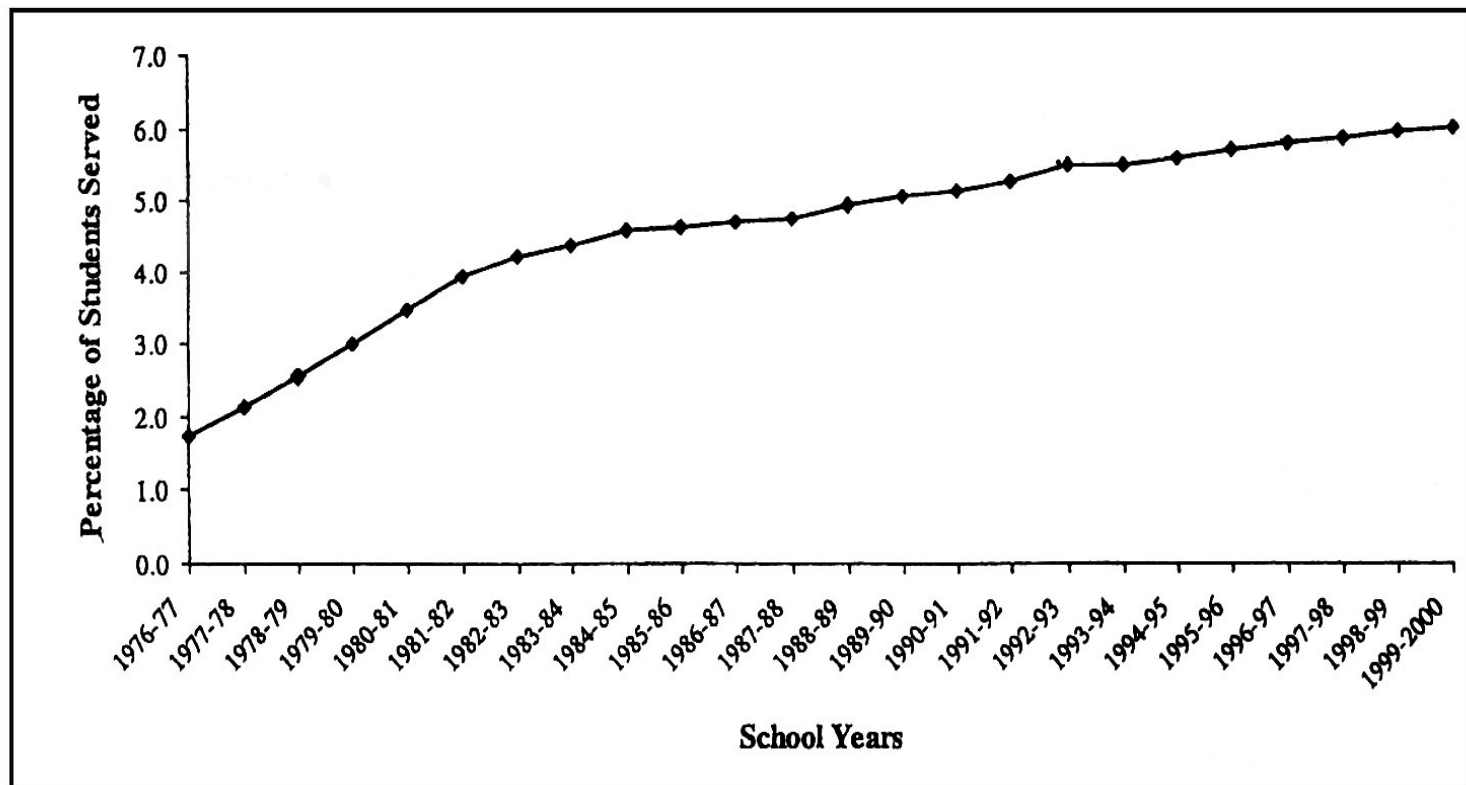


Why Use RTI Instead of IQ/Achievement Discrepancy?

- Education of All Handicapped Children Act (1975) defined “underachievement” as discrepancy between IQ and achievement
- IQ/Achievement discrepancy is criticized:
 - IQ tests do not necessarily measure intelligence.
 - Discrepancy between IQ and achievement may be inaccurate.
 - Waiting for students to fail.



Why Use RTI Instead of IQ/Achievement Discrepancy?



Why Use RTI Instead of IQ/Achievement Discrepancy?

- An alternative framework for “underachievement”: unexpected failure to benefit from validated instruction
- Eliminates poor instructional quality as an explanation for learning problems
- In this presentation, we operationalize unresponsiveness as dual discrepancy
 - Student performs substantially below level demonstrated by peers AND demonstrates a learning rate substantially below peers.
- Special education considered only when dual discrepancy, in response to small-group validated instruction, is found.



Why Use RTI Instead of IQ/Achievement Discrepancy?

- **Responsiveness-to-Intervention:**
 - When a low-performing student does not show growth in response to small-group validated intervention, to which most students respond, he/she is considered to have special learning needs, due to a disability, which require an individualized learning program. This is typically delivered under the auspices of special education.



Advantages of RTI

- Students identified as LD only after not responding to effective instruction
 - Poor instructional quality is ruled out as explanation for poor student performance
- Students provided intervention early
 - Not waiting for students to fail
- Student assessment data inform teachers about appropriate instruction
 - Data help improve teacher instruction



Approaches To Implementing RTI: Five Dimensions

1. Number of tiers (2–5)
2. How at-risk students are identified:
 - Percentile cut on norm-referenced test
 - Cut-point on curriculum-based measurement (CBM) with and without progress monitoring (PM)
3. Nature of Tier 2 preventative treatment:
 - Individualized (i.e., problem solving)
 - Standardized research-based protocol
4. How “response” is defined:
 - Final status on norm-referenced test or using a benchmark
 - Pre–post improvement
 - CBM slope and final status
5. What happens to nonresponders:
 - Nature of the abbreviated evaluation to categorize learning disability (LD), behavior disability (BD), and mental retardation (MR)
 - Nature of special education



Several Viable Approaches To Implementing RTI

In this presentation, we feature the most widely researched model.

1. Three tiers
2. Designating risk with CBM benchmark + PM
3. Standardized research-based Tier 2 preventative tutoring
4. Defining response in terms of CBM slope/final status
5. Nonresponders undergo abbreviated evaluation to answer questions and distinguish LD, BD, and MR
 - Receive reformed Tier 3 special education

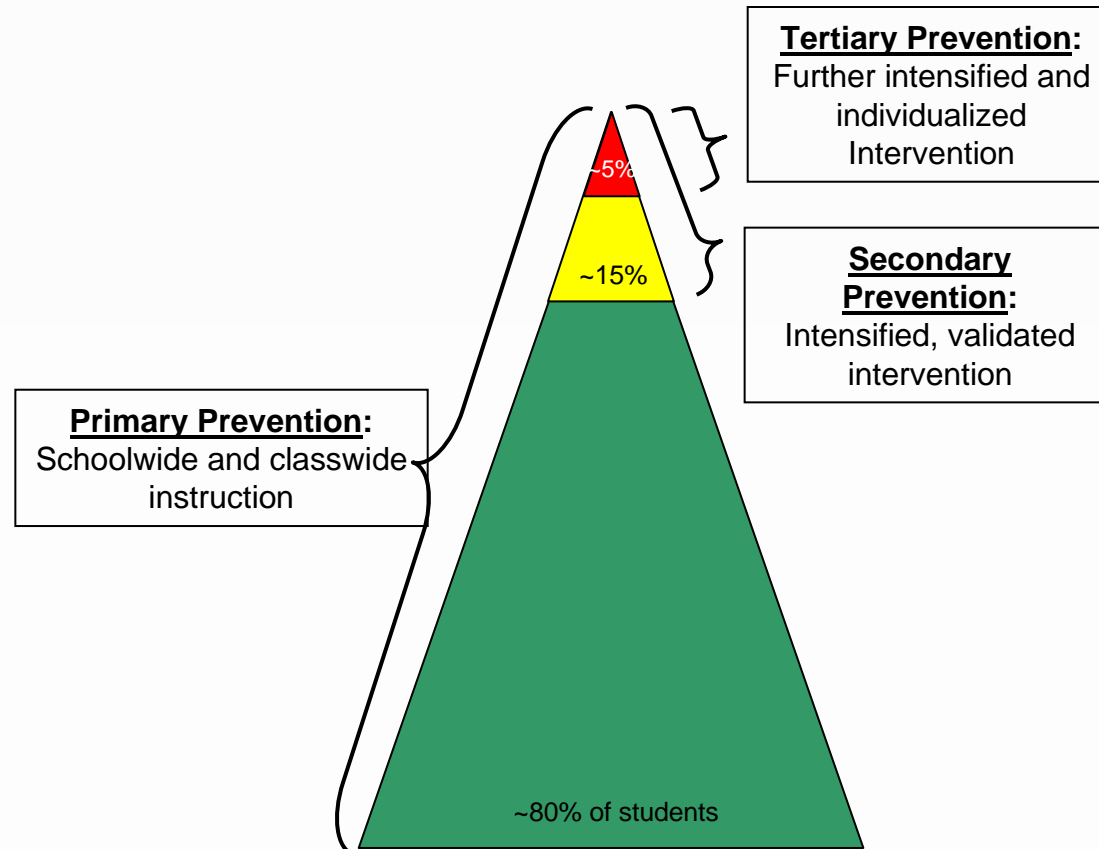


Basics of RTI

- RTI relies on a multi-tier prevention system to identify students with LDs:
 - Primary prevention level
 - Secondary prevention level
 - Tertiary prevention level
- The model we discuss today incorporates 1 tier of intervention within each of the 3 prevention levels. (Some models incorporate more than one tier of intervention within each of the 3 prevention levels.)



Continuum of Schoolwide Support



Basics of RTI

- Primary Prevention (Tier 1):
 - All students screened to determine which students are suspected to be at risk.
 - Students suspected to be at risk remain in primary prevention, with progress monitoring.
 - Progress monitoring
 - Disconfirms risk. These responsive students remain in primary prevention OR
 - Confirms risk. These unresponsive students move to secondary prevention.



Basics of RTI

- Secondary Prevention (Tier 2):
 - Research-based tutoring
 - Provided in small groups
 - With weekly progress monitoring
 - At end of tutoring trial, progress monitoring indicates students were
 - Responsive to Tier 2 tutoring. These responsive students return to primary prevention, but progress monitoring continues OR
 - Unresponsive to Tier 2 tutoring. These unresponsive students move to tertiary prevention (special education).

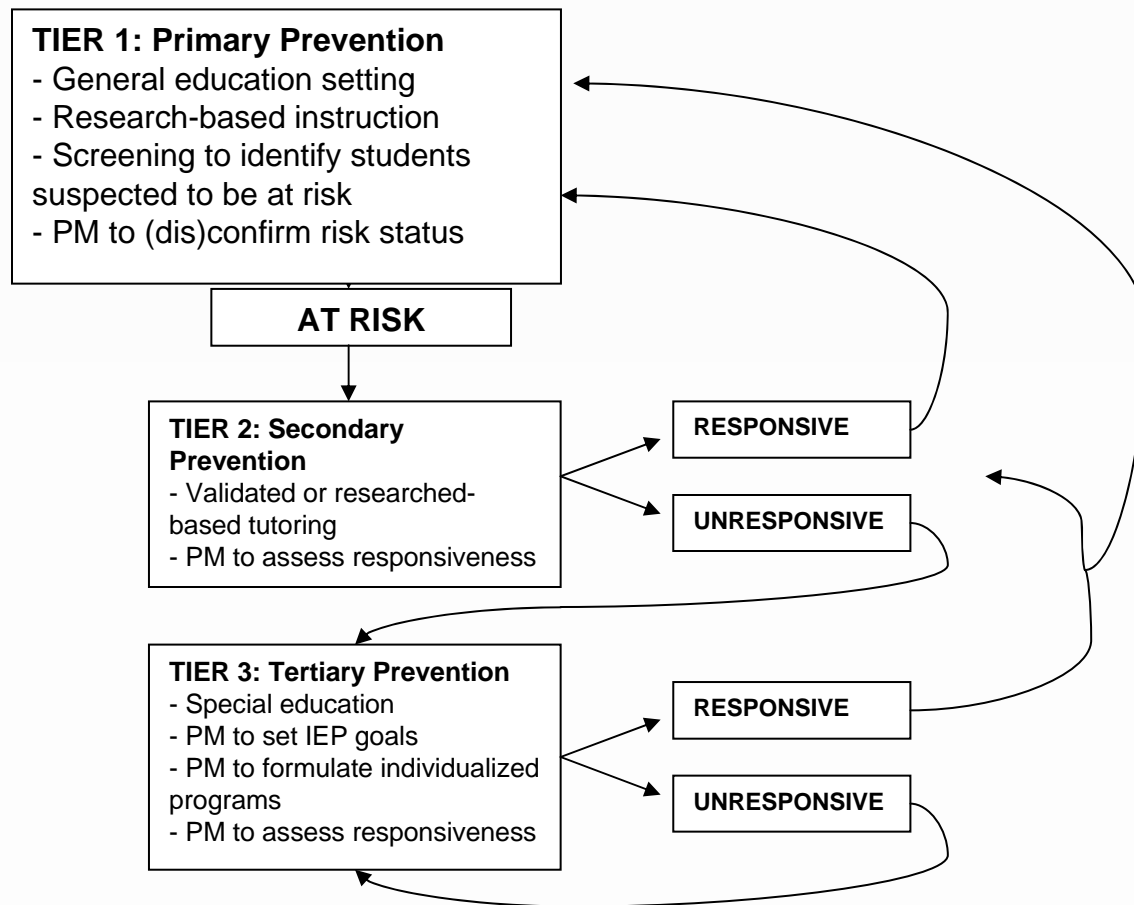


Basics of RTI

- Tertiary Prevention (Tier 3):
 - Special education services
 - With weekly progress monitoring
 - Progress monitoring is used to
 - Set Individualized education program (IEP) goals
 - Design Individualized instructional programs
 - Monitoring student response
 - When progress monitoring indicates the student achieves benchmark performance, student exits special education (i.e., returns to primary or secondary prevention), with ongoing progress monitoring.



Three Tiers of RTI



Typical RTI Procedure

1. Screen all students to identify suspected at-risk students.
2. Progress monitor students suspected to be at risk students to (dis)confirm risk.
3. Provide second preventative tutoring to at-risk students, while progress is monitored to assess response.



Typical RTI Procedure (continued)

4. Move students who prove unresponsive to secondary preventative tutoring to tertiary prevention. They receive comprehensive evaluation to answer questions and to determine disability.
5. Monitoring progress in tertiary prevention to set IEP goals, formulate effective programs, and determine exit decisions.



So, RTI Is Embedded within A Multi-Tier Prevention System: Analogy to Health Care

- High blood pressure (HBP) can lead to heart attacks or strokes (*like academic failure can produce serious long-term negative consequences*).
- At the annual check-up (primary prevention), HBP screening (*like annual fall screening for low reading or math scores*).
- If screening suggests HBP, monitoring over 6-8 weeks occurs to verify HBP (*like PM to ([dis]confirm risk)*).
- If HBP is verified, second prevention occurs with relatively inexpensive diuretics, which are effective for vast majority, and monitoring continues (*like small-group Tier 2 tutoring, using a standard treatment protocol, with PM to index response*).
- For patients who fail to respond to secondary prevention (diuretics), then tertiary prevention occurs - experimentation with more expensive medications (e.g., ACE inhibitors, beta blockers), with ongoing monitoring, to determine which drug or combination of drugs is effective (*like individualized instructional programs inductively formulate with progress monitoring*).





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Progress Monitoring: An Essential Tool within RTI

Progress Monitoring (PM)

- PM is an essential tool for RTI.
- With PM, student academic performance is assessed using brief measures.
- PM takes place frequently (generally weekly) using alternate forms.
- CBM is one form of progress monitoring.



Progress Monitoring (PM)

- CBM benchmarks used for screening
- CBM slopes used to confirm or disconfirm student risk status in Tier 1
- CBM used to define responsiveness-to-intervention in Tier 2
- CBM used to set IEP goals, formulate individualized programs, and determine responsiveness-to-intervention in Tier 3



Basics of CBM

- Assesses student academic competence at one point in time to screen or evaluate final status.
- Assesses progress frequently so that slope of improvement can be quantified to indicate rate of improvement.
- Produces accurate and meaningful information about levels of performance and rates of improvement.



Basics of CBM

- Assessing student performance at one point in time:
 - Two alternate forms are administered in same sitting
 - Average score is calculated
- Alex:
 - $(52 + 38) \div 2 = 40$
 - 40 is Alex's average CBM score for screening



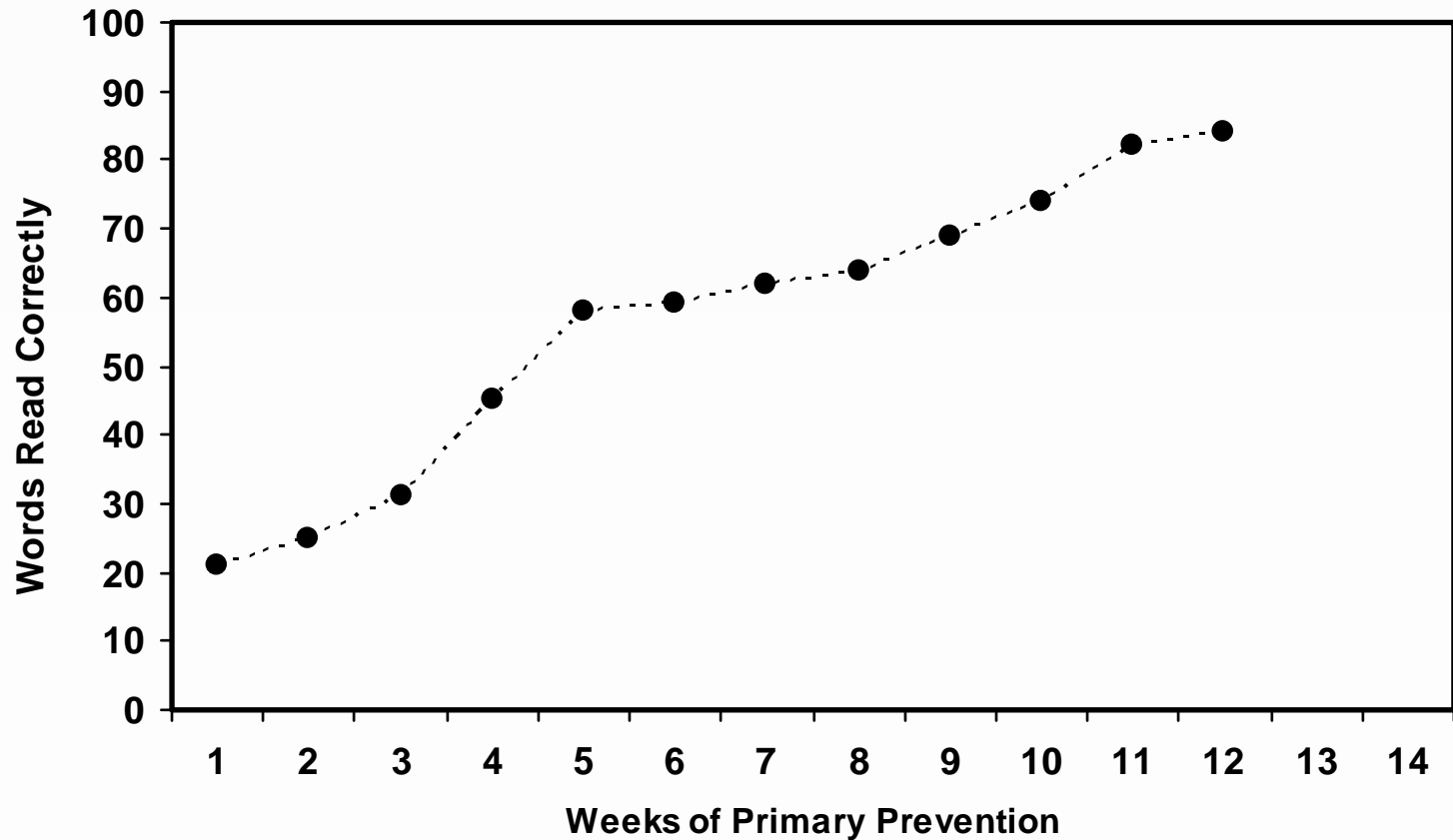
Graphing CBM Scores

Graphs allows teachers to quantify rate of student improvement:

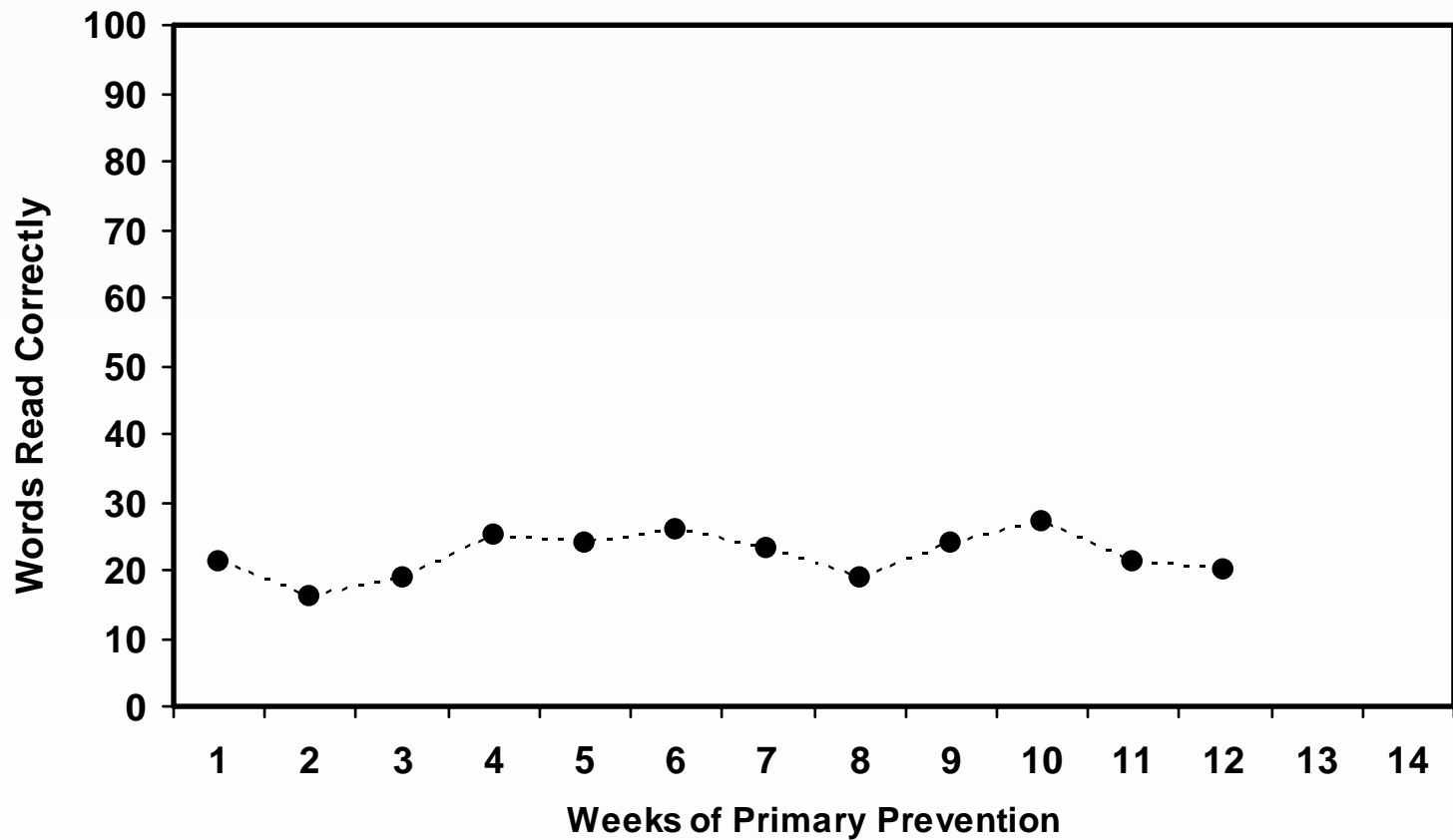
- Increasing scores indicate responsiveness.
- Flat or decreasing scores indicate unresponsiveness.



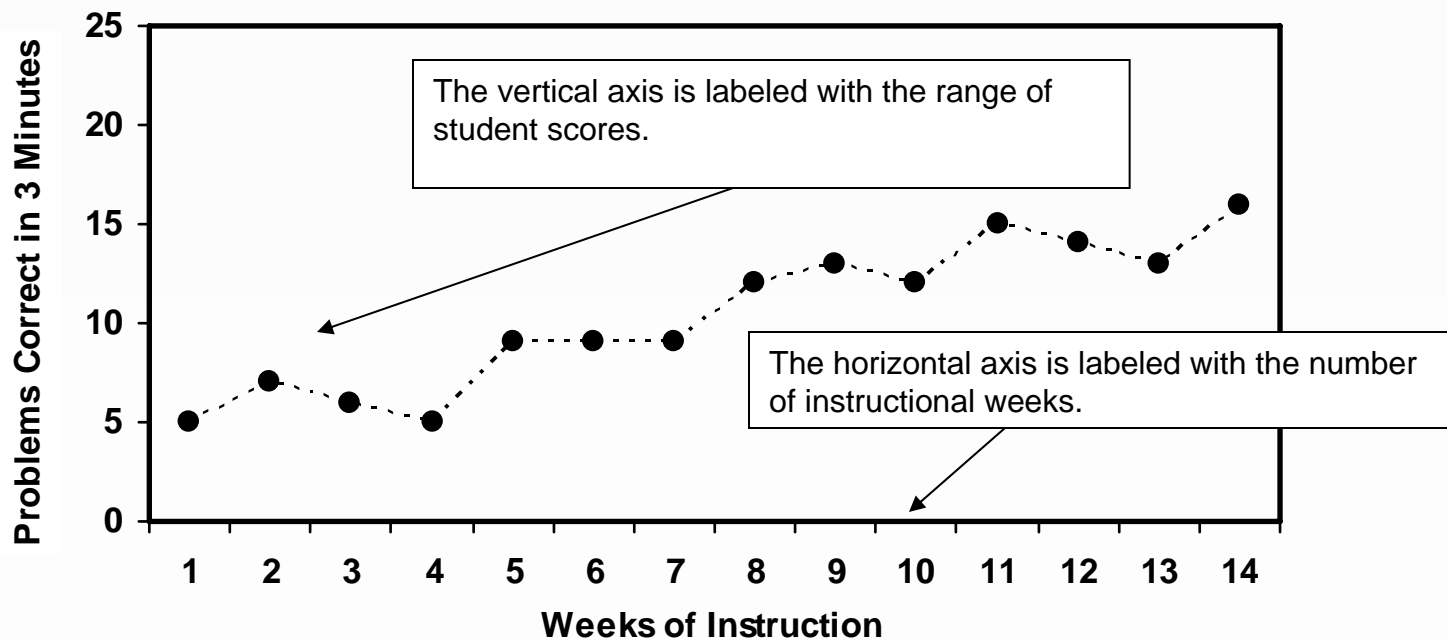
Graphing CBM Scores



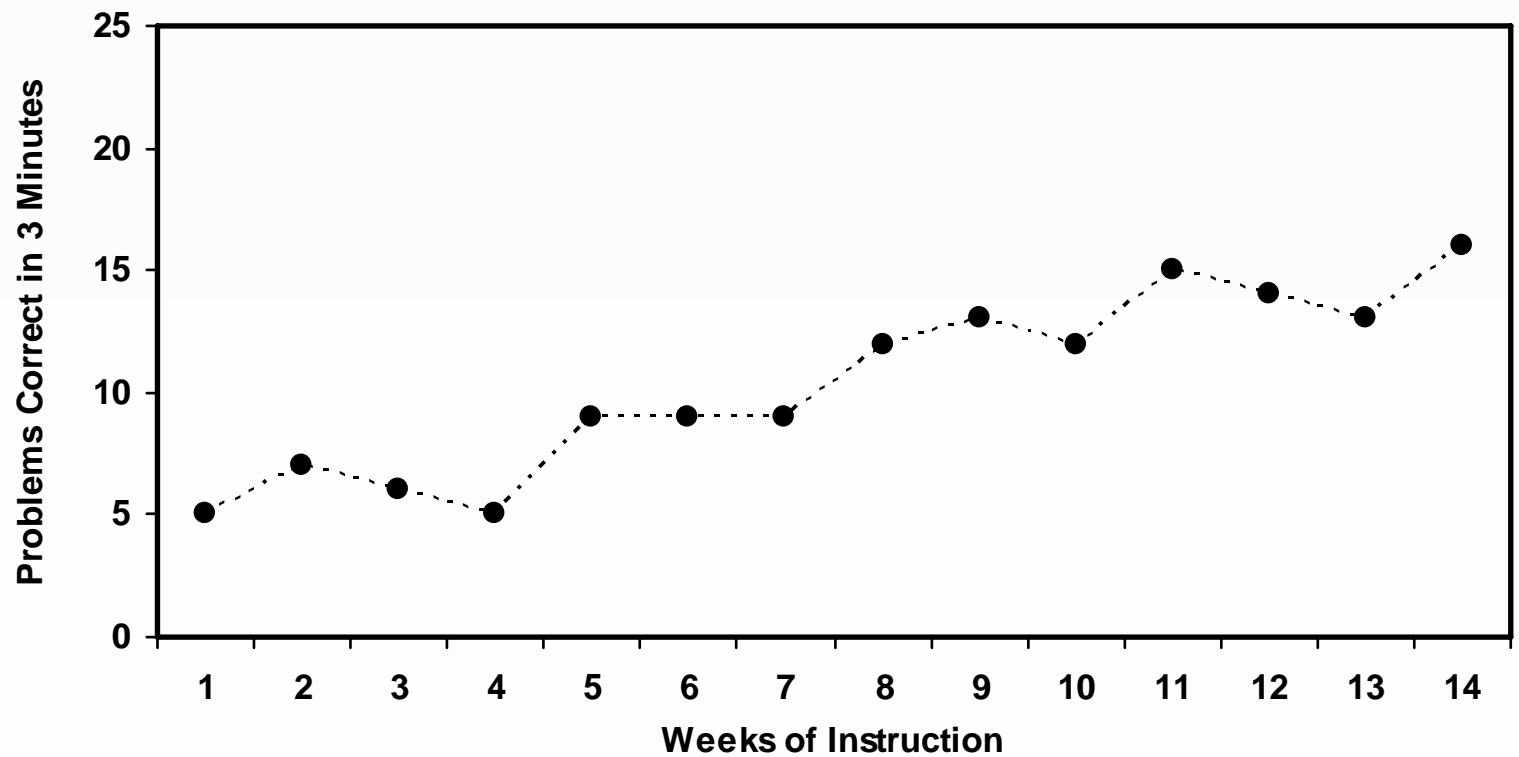
Graphing CBM Scores



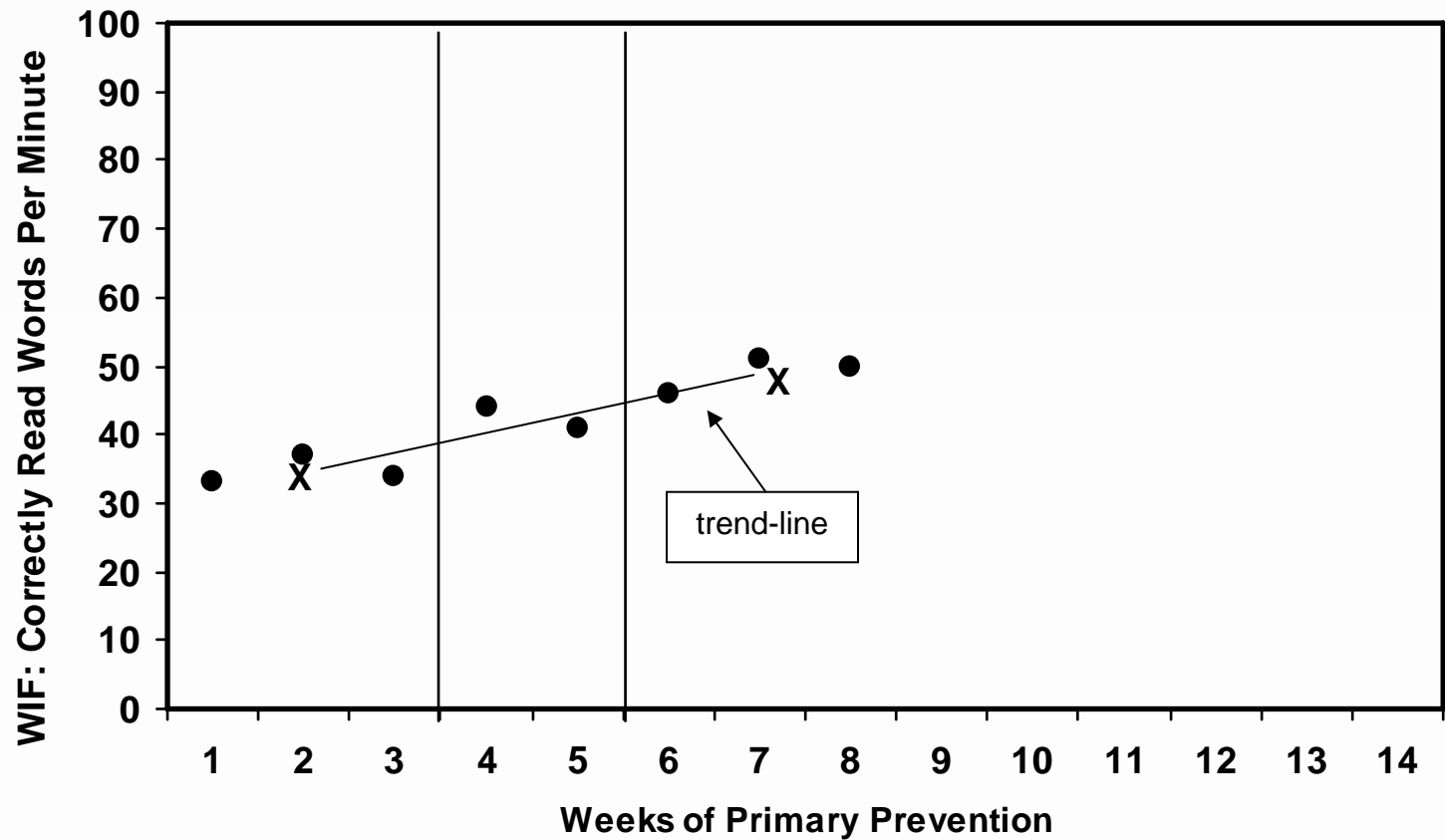
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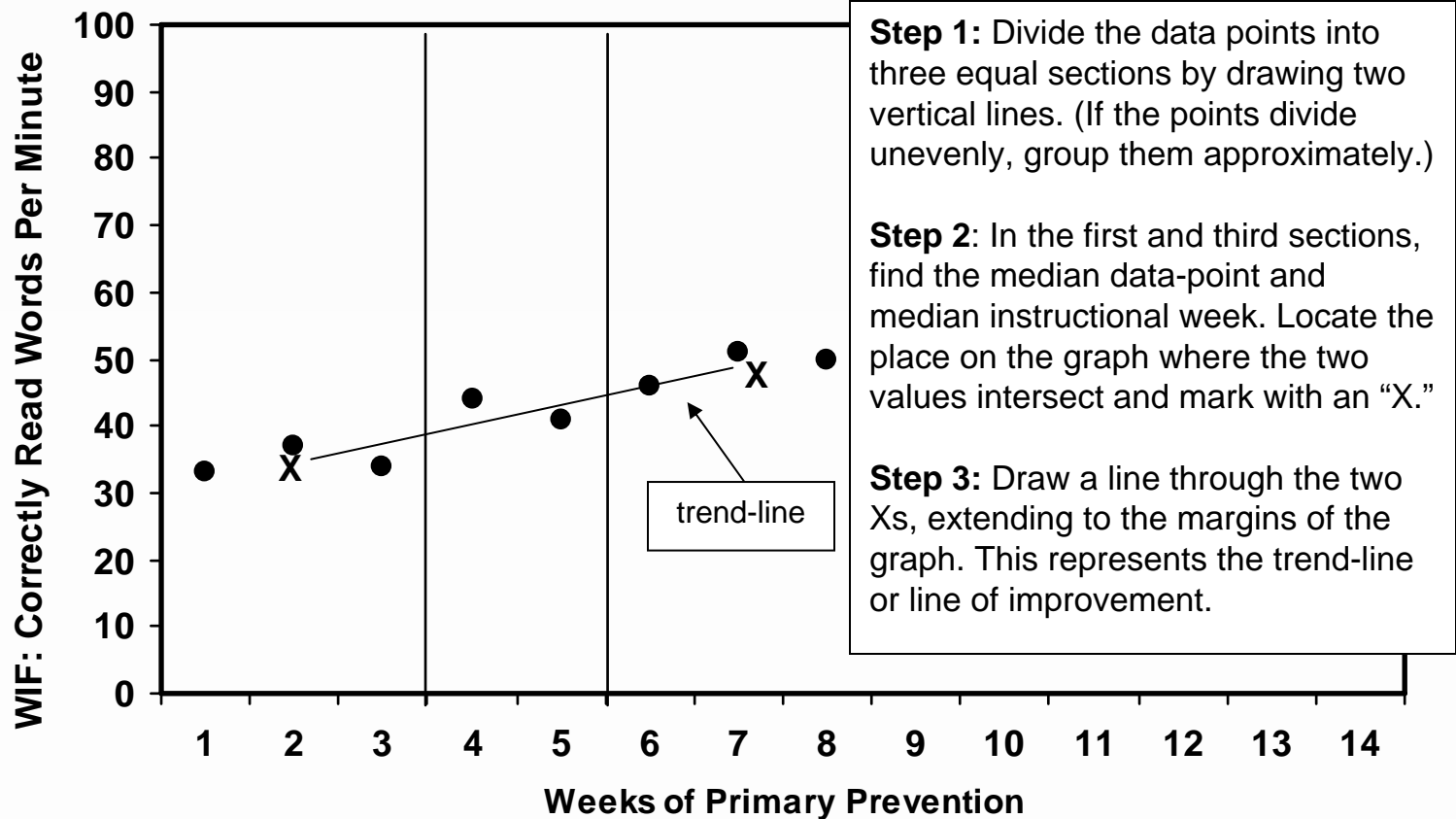
Graphing CBM Scores



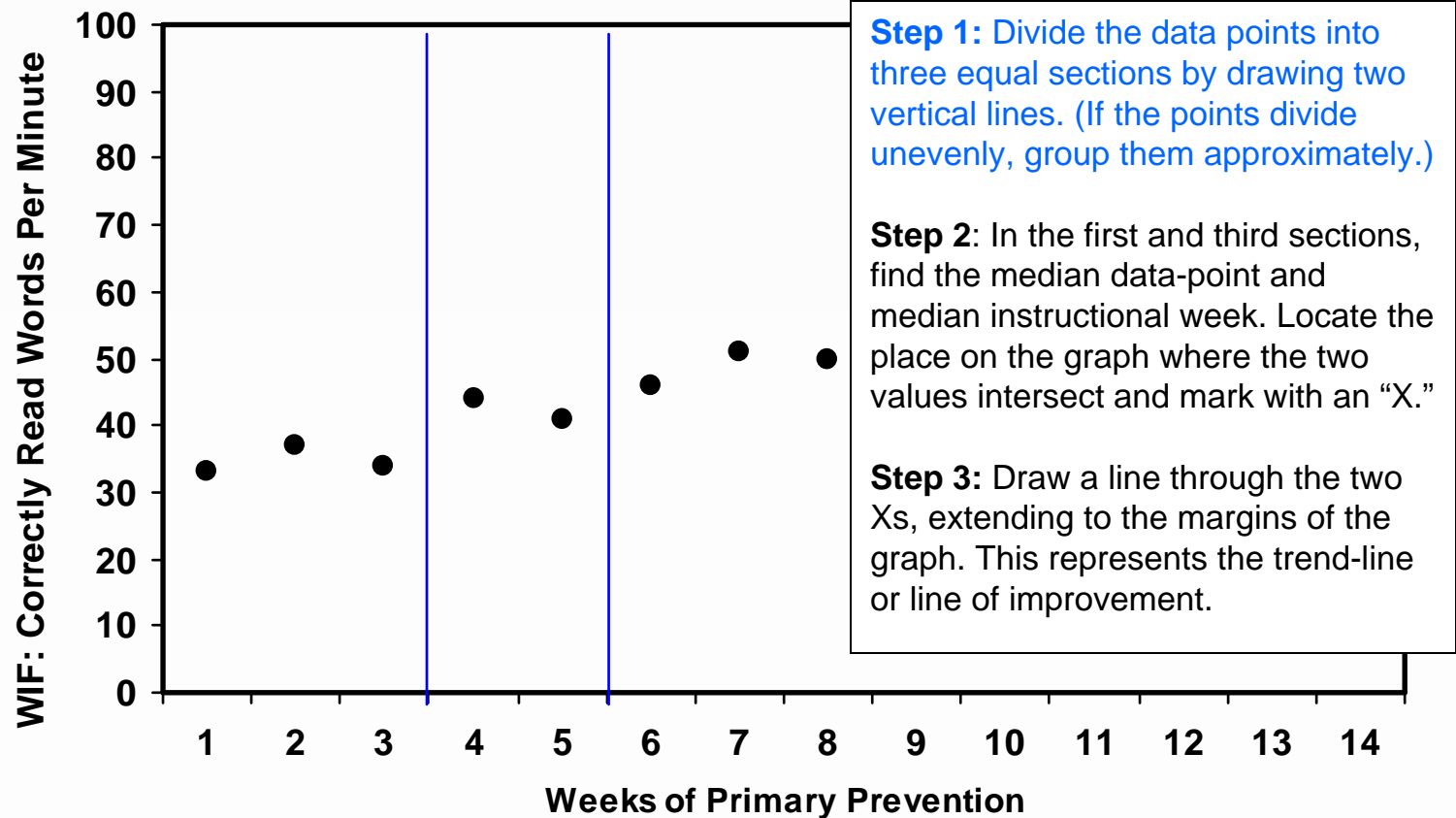
Calculating Slope: First draw a trend line



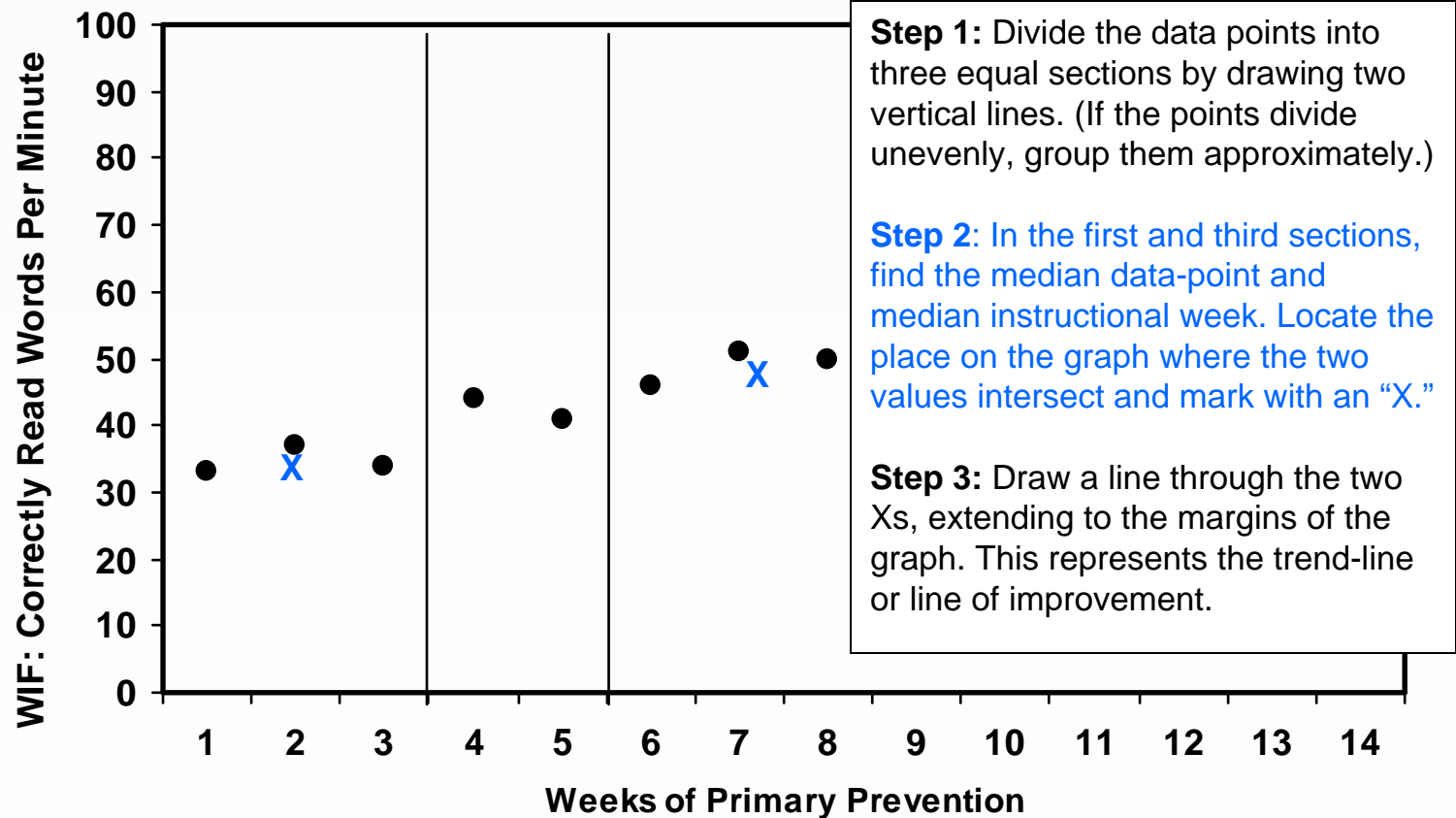
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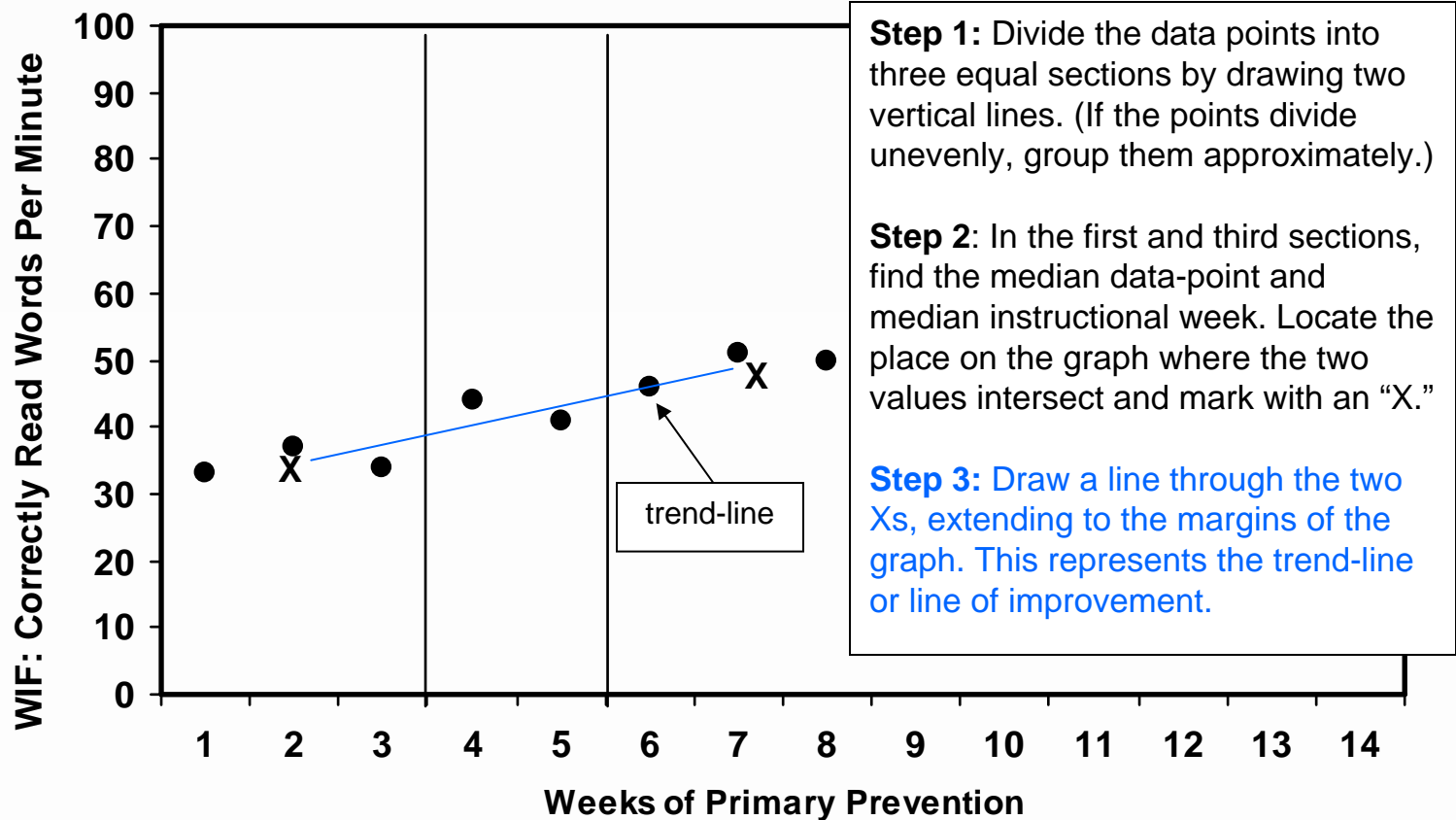
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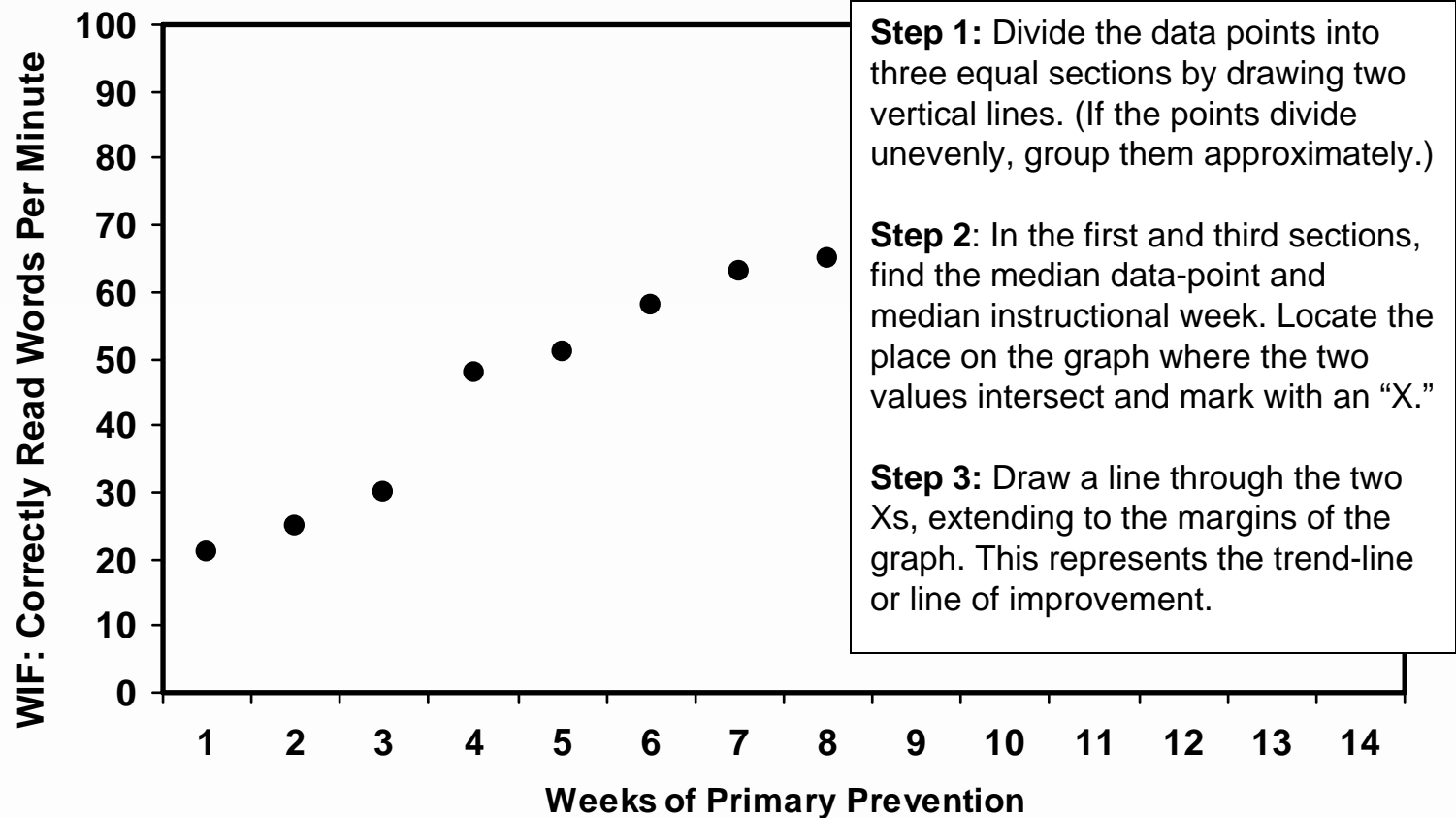
Calculating Slope: First draw a trend line



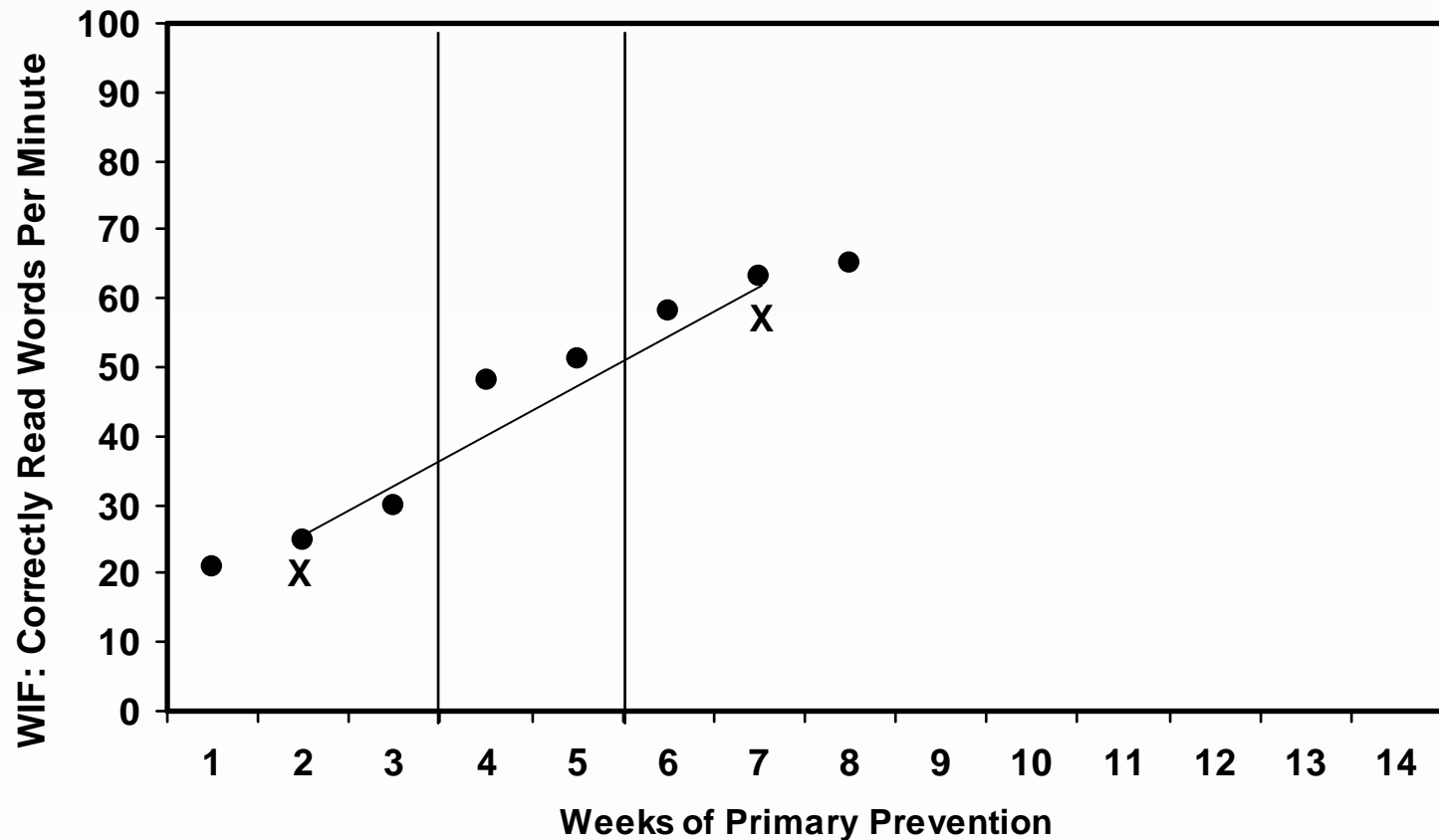
Calculating Slope: First draw a trend line



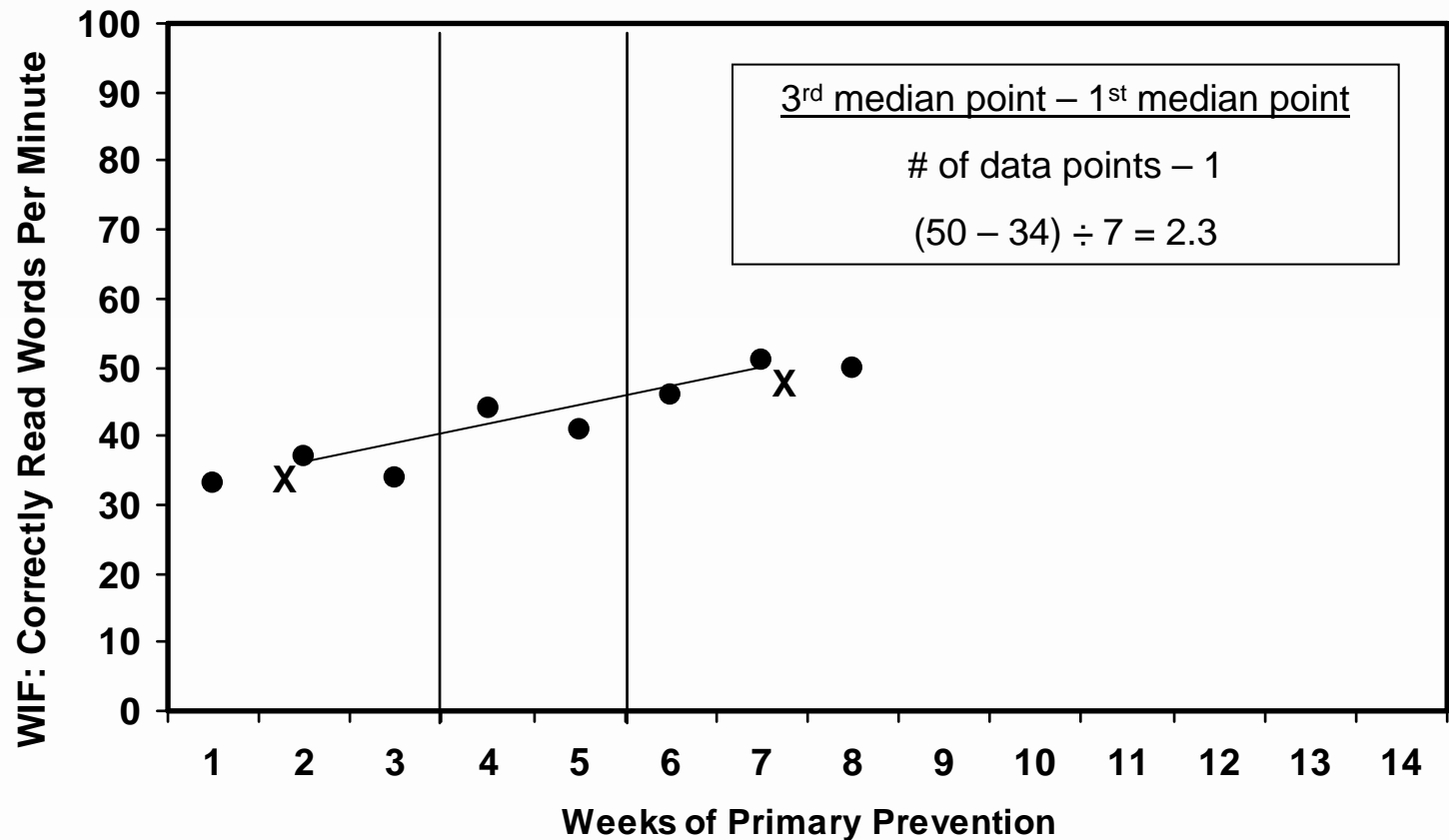
Calculating Slope: First draw a trend line



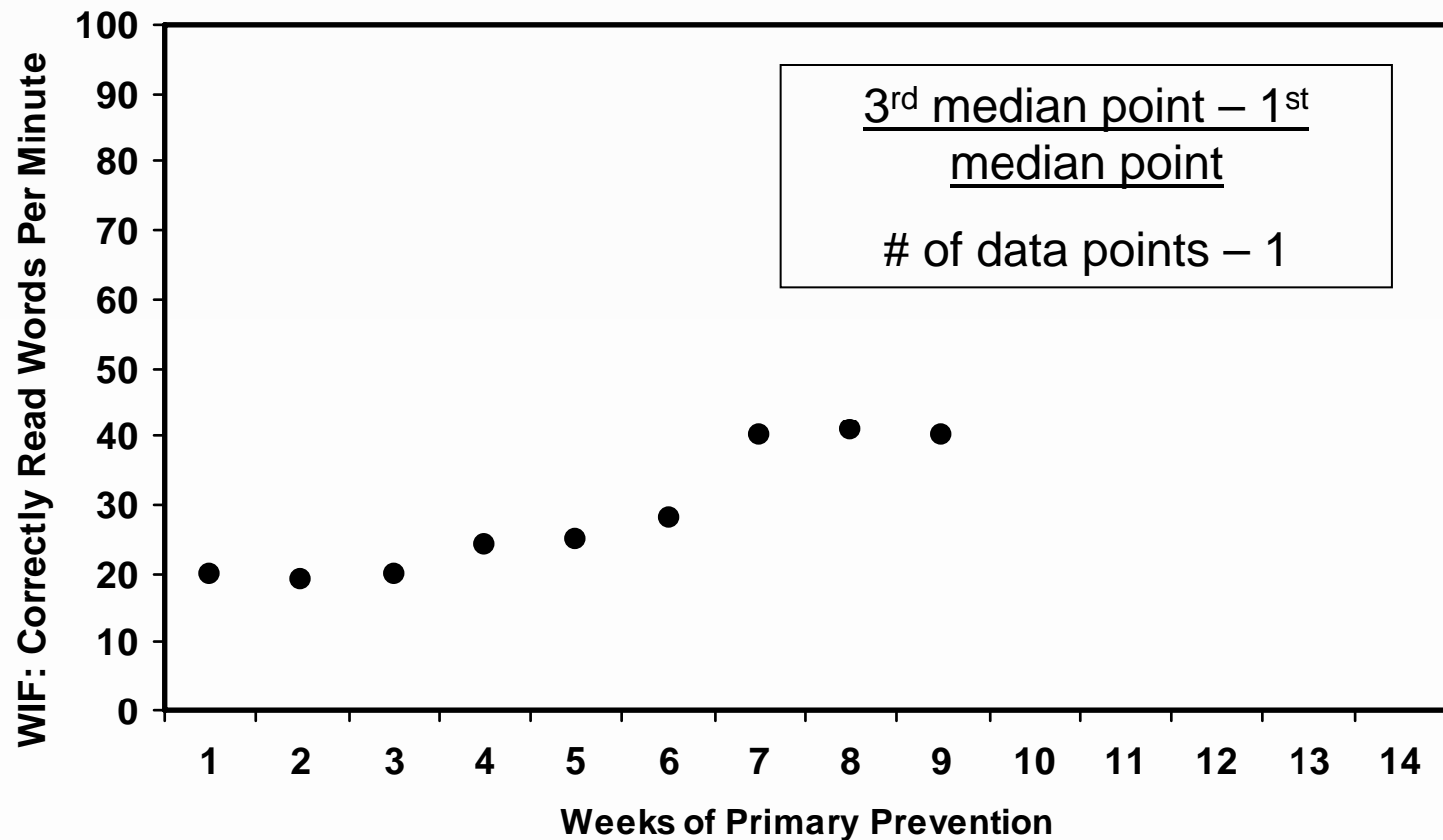
Calculating Slope: First draw a trend line



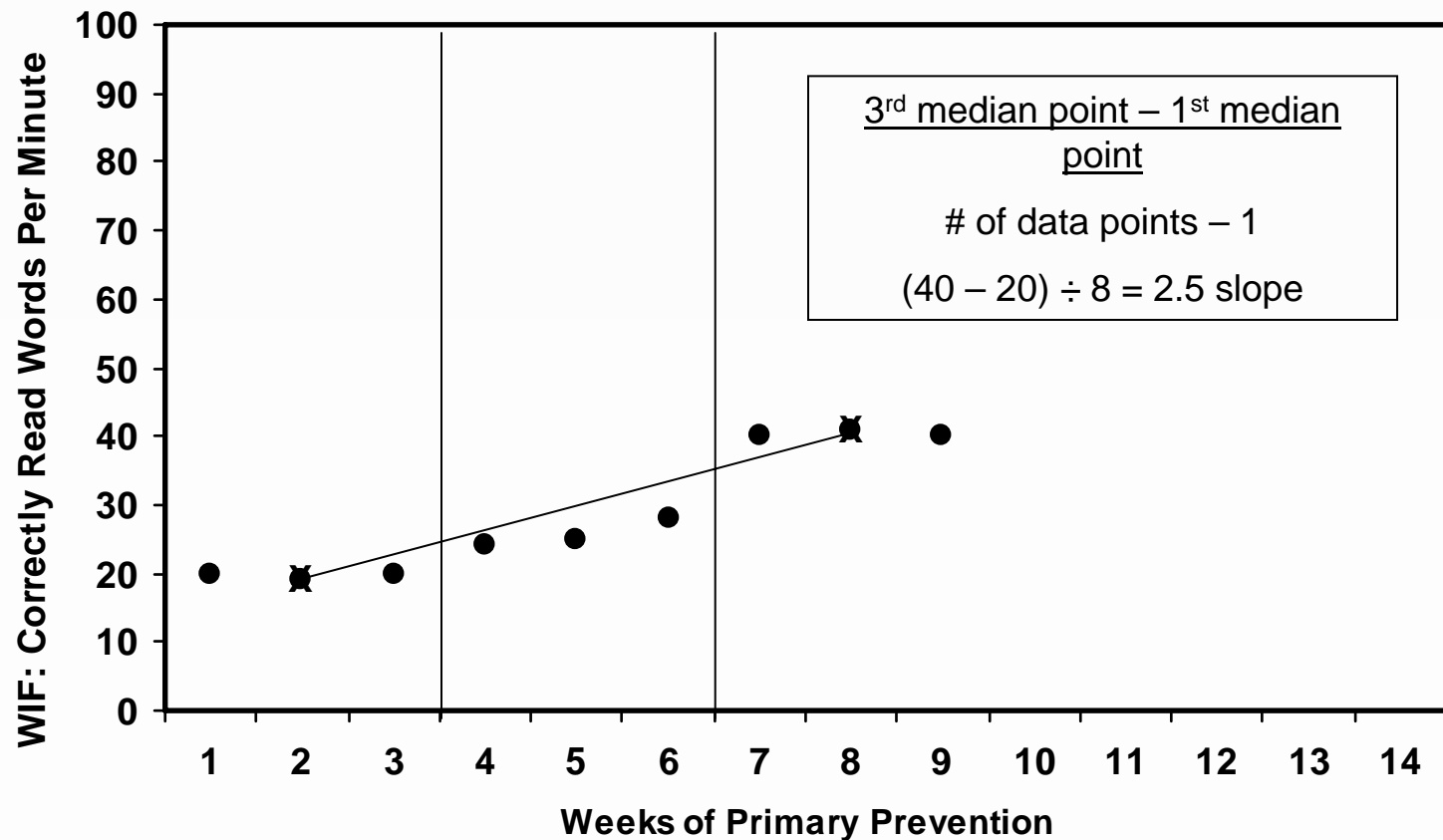
Calculating Slope: Next, for the trend line, quantify weekly rate of increase



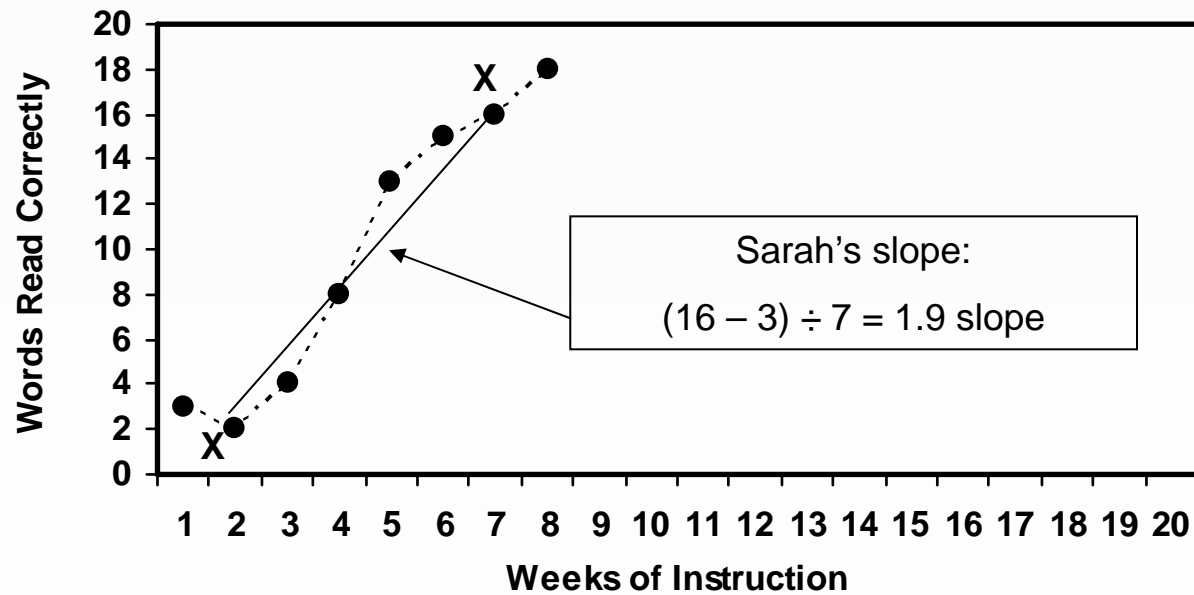
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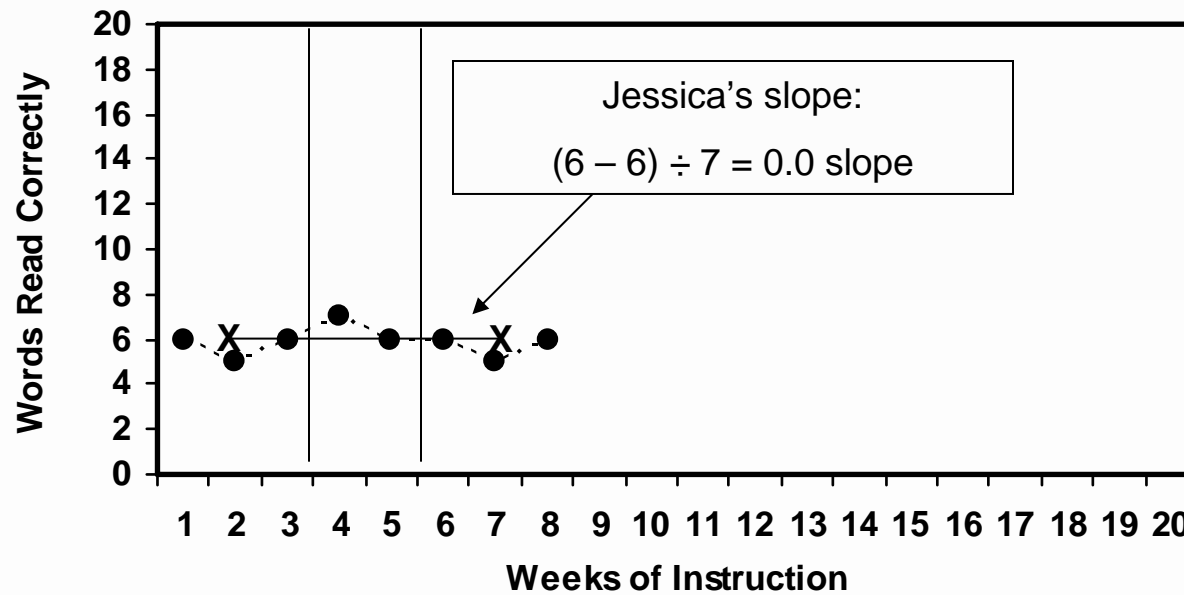
Calculating Slope: Next, for the trend line, quantify weekly rate of increase



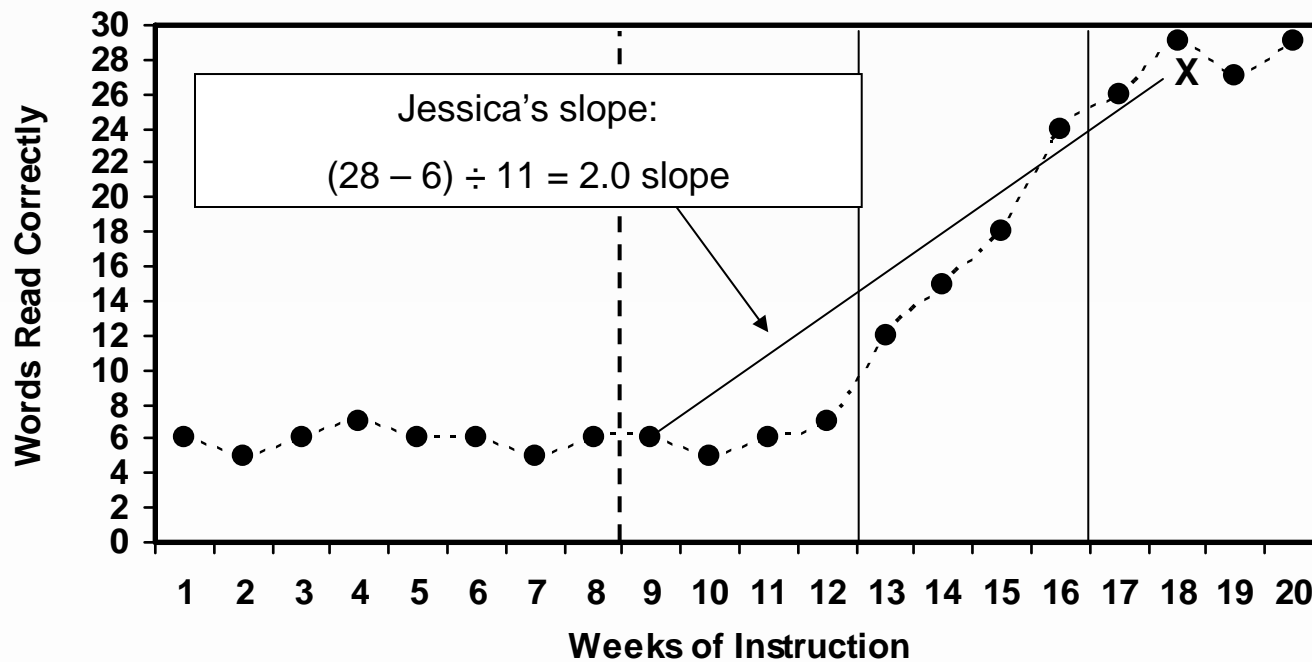
Sarah's Graph – Primary Prevention



Jessica' Graph – Primary Prevention



Jessica's Graph – Secondary Prevention

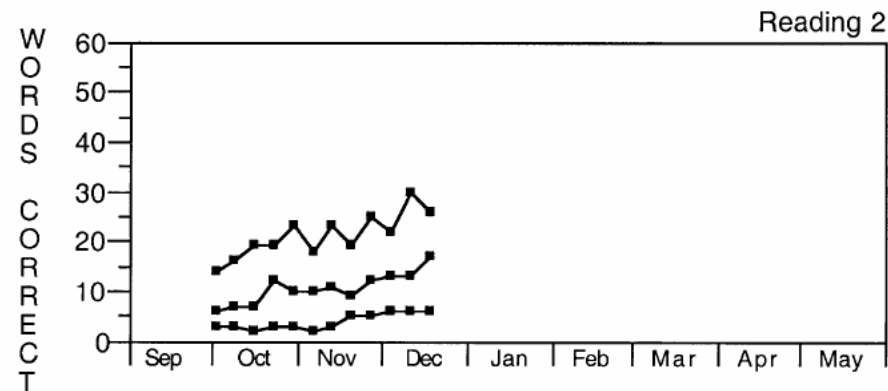


NOTE: Sample Primary Prevention PM Class Report

CLASS GRAPH

School: Westgate
Teacher: Smith
12/20/03

Class Report
Page 1



Students to Watch (lowest 25%):

Michael Cox
David Perry
Alan Craig
LaShonda Jones
Carson Wilkins
Dana Sommers



Sample Primary Prevention PM Class Report

RANKED SCORES

School: Westgate
Teacher: Smith
12/20/03

Class Report
Page 2

<u>Name</u>	<u>Score</u>	<u>Percent</u>	<u>Slope</u>
Jason Dunning	37	100%	+1.44
Katherine Rogers	33	94%	+1.57
Lee Tang	26	98%	+0.96
Andy Farrell	25	98%	+1.72
Stephanie Sampras	21	98%	+1.17
Julie Page	20	98%	+1.36
William Curtis	18	95%	+0.91
Jimmy Smithson	18	90%	+0.53
Caleb Jacobs	18	92%	+0.77
Eddie Danforth	15	91%	+0.82
Meagam MacKenzie	13	84%	+0.88
Adrian Alexander	12	81%	+0.35
Bryan Gunter	11	96%	+0.74
Kai-Yun Nguyen	10	70%	+0.49
Brad Williams	10	78%	+0.70
Shawn Brooks	9	73%	+0.56
Mark Mason	7	71%	-0.09
Alex Davis	7	100%	+0.48
Michael Cox	7	82%	+0.60
David Perry	6	86%	+0.48
Alan Craig	6	71%	+0.31
LaShonda Jones	5	65%	-0.20
Carson Wilkins	4	80%	+0.11
Dana Sommers	3	64%	+0.05



Sample Primary Prevention PM Class Report

CLASS STATISTICS

Class Report

School: Westgate

Page 3

Teacher: Smith

12/20/03

Score

Average score	14.5
Standard deviation	9.2
Discrepancy criterion	5.3

Slope

Average Slope	+0.70
Standard deviation	0.50
Discrepancy criterion	+0.20

Students identified with dual discrepancy criterion

	<u>Score</u>	<u>Slope</u>
Carson Wilkins	4.0	+0.11
Dana Sommers	3.5	+0.05





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Curriculum-Based Measurement (CBM)

A Scientifically Validated Form of PM

A Primer

Reading CBM

(In this presentation, we feature the first measure listed. For information on the other measures, see the NCPM's reading materials.)

Grade	CBM Measure
Kindergarten	Letter Sound Fluency Initial Sound Fluency Phoneme Segmentation Fluency
Grade 1	Word Identification Fluency Nonsense Word Fluency + Passage Reading Fluency
Grade 2	Passage Reading Fluency
Grade 3	Passage Reading Fluency
Grade 4	Maze Fluency Passage Reading Fluency
Grade 5	Maze Fluency Passage Reading Fluency
Grade 6	Maze Fluency Passage Reading Fluency



Letter Sound Fluency (LSF)

- Student says sounds for 1 minute.
- If student finishes before 1 minute, score is prorated.
- Score is number of correct sounds.

b	c	h	a
---	---	---	---

m c e q h

d j y a n

t x b g u

s z p f l

w i r k o v



Letter Sound Fluency (LSF)

- Abby's LSF
 - Attempted 23 letter sounds
 - Mispronounced 5
 - $23 - 5 = 18$
 - Abby's CBM score is 18

Score Sheet

Student's Name Abby H. Examiner's Initials JF
Teacher's Name Mrs. Fischer Date of Testing Nov. 18
School Darby Elementary

Letter Sound Fluency Test

If child does not say anything after 3 seconds: do not say anything, point to next letter. If names incorrect letter: keep going. Draw a diagonal slash through any letters the student does not say the sound for or says the sound incorrectly. Circle the last item that child attempts. Stop at 1 minute. If finished before 1 minute: record time.

m c e ~~h~~ d j ~~a~~ n t x ~~g~~ u s z p ~~l~~ w i (r) k o v

18 number of letters sounded correctly (in 60 seconds)
_____ adjusted score (if completed test in less than 1 minute)



Word Identification Fluency (WIF)

- Student reads words for 1 minute.
- If student finishes before 1 minute, score is prorated.
- Score is number of correct words.

List 13

and	always	gave
as	going	car
at	until	probably
one	saw	fire
said	end	taken
into	room	problems
could	far	tree
than	form	common
new	become	hot
back	government	using
such	himself	doing
things	sun	main
same	known	thus
find	war	ask
went	learn	comes
between	I'm	street
want	eat	



Word Identification Fluency (WIF)

- Shameka's WIF
 - Attempted 36 words in 1 minute
 - Mispronounced 7 words
 - $36 - 7 = 29$
 - Shameka's CBM score is 29

List 13

Student's Name: Shameka S. Examiner's Initials: ST

Student's Teacher: Mr. Towler Date: Jan. 15

Score 1 for correct response, 0 for incorrect response.

and <u>1</u>	always <u>1</u>	gave <u>1</u>
as <u>1</u>	going <u>0</u>	car <u>1</u>
at <u>1</u>	until <u>1</u>	probably <u>1</u>
one <u>1</u>	saw <u>1</u>	fire <u>1</u>
said <u>0</u>	end <u>1</u>	taken <u>1</u>
into <u>1</u>	room <u>1</u>	problems <u>1</u>
could <u>1</u>	far <u>1</u>	tree <u>1</u>
than <u>1</u>	form <u>0</u>	common <u>1</u>
new <u>1</u>	become <u>0</u>	hot <u>1</u>
back <u>1</u>	government <u>0</u>	using <u>1</u>
such <u>1</u>	himself <u>1</u>	doing <u>1</u>
things <u>1</u>	sun <u>1</u>	main <u>1</u>
same <u>1</u>	known <u>0</u>	thus <u>1</u>
find <u>0</u>	war <u>1</u>	ask <u>1</u>
went <u>1</u>	learn <u>1</u>	comes <u>1</u>
between <u>1</u>	I'm <u>1</u>	street <u>1</u>
want <u>1</u>	eat <u>1</u>	

Total score = 29



Passage Reading Fluency (PRF)

- Student reads for 1 minute.
- Examiner marks errors on an “examiner copy.”
- Score is number words read correctly .

Raymond lived in Georgia. He was born there and had many friends. One day Dad had come home from work to say that they would have to move far away. Dad worked in a factory. The factory had closed and Dad needed a new job. Dad had found a new job and now they had to move.

Raymond was sad because he did not want to leave his school. He did not want to leave his friends.

"I am sorry, son," said Dad.

"It is OK," said Raymond with a smile. He did not want Dad to feel bad.

They packed up the car and moved to a new state. Their new house was old and scary. "I wonder whether there are any ghosts living in our house," said Raymond. The house was big and dark. The front of the house was covered by trees. Even the trees looked scary. The blowing breeze made them look alive.

Inside, the house was dark, so Dad fixed the lights and turned them on. Then they unpacked the car and Raymond went up to his new room. The walls were cracked. Dad would paint them. Raymond was afraid to open the closet. He would do it later.

Raymond went down to the kitchen. Mom was making dinner. She had fried chicken and potatoes cooking because these were Raymond's favorites.

After dinner Raymond felt sleepy, so he went to his room to go to sleep. "Good night!" he called down to Mom and Dad.

"Sweet dreams," they said back.

Raymond got into bed and turned out the light. He began to fall asleep. Then he heard a loud noise. It came from the closet. Raymond



Passage Reading Fluency (PRF)

- Reggie's PRF
 - Attempted 136 words in 1 minute
 - Skipped 14 words
 - Made 8 reading errors
 - Made 1 skipping error
 - $136 - 14 = 122$
 - $122 - 9 = 113$
 - Reggie's CBM score is 113

Raymond lived in Georgia. He was born there and had many	11
friends . One day Dad had come home from work to say that they	24
would have to move far away. Dad worked in a factory. The factory	37
had closed and Dad needed a new job. Dad had found a new job and	52
now they had to move.	57
Raymond was sad because he did not want to leave his school.	69
He did not want to leave his friends.	77
"I am sorry, son," said Dad.	83
"It is OK," said Raymond with a smile . He did not want Dad to	97
feel bad.	99
They packed up the car and moved to a new state. Their new	112
house was old and scary . "I wonder whether there are any ghosts	124
living in our house," said Raymond. The house was big and dark . The	137
front of the house was covered by trees. Even the trees looked scary.	150
The blowing breeze made them look alive.	157
Inside, the house was dark, so Dad fixed the lights and turned	169
them on. Then they unpacked the car and Raymond went up to his new	183
room. The walls were cracked. Dad would paint them. Raymond was	194
afraid to open the closet. He would do it later.	204
Raymond went down to the kitchen. Mom was making dinner.	214
She had fried chicken and potatoes cooking because these were	224
Raymond's favorites.	226
After dinner Raymond felt sleepy, so he went to his room to go	239
to sleep. "Good night!" he called down to Mom and Dad.	250
"Sweet dreams," they said back.	255
Raymond got into bed and turned out the light. He began to fall	268
asleep. Then he heard a loud noise. It came from the closet. Raymond	281



Maze Fluency

- Student circles correct words for 2.5 minutes.
- Score is number of correct replacements.

THE CAVE TRIP

Mrs. Jones said that Cindy's class [~~was/~~ step/ ~~hill~~] going on a field trip. The [~~stare/~~ class/ ~~green~~] of third graders had never been [~~he/~~ on/ ~~so~~] a field trip before. Cindy was [~~bed/~~ went/ ~~very~~] excited. Mrs. Jones said that the [~~class/~~ chair/ ~~peach~~] was going on a field trip [~~at/~~ to/ ~~is~~] see the caves up in the mountains. [~~Show/~~ And/ ~~The~~] class had been studying about caves [~~for/~~ sad/ ~~kill~~] the last few weeks. Cindy [~~wet/~~ and/ ~~ill~~] her classmates had seen pictures of [~~shout/~~ caves/ ~~sing~~]. Now, they were going to see [~~a/~~ are/ ~~or~~] real cave.

A week later, the students [~~then/~~ her/ ~~and~~] Mrs. Jones climbed onto a bus [~~four/~~ that/ ~~dime~~] would take them to [~~and/~~ the/ ~~sat~~] cave. It was early in the morning [~~so/~~ tap/ ~~and~~] the air was chilly. Mrs. Jones [~~got/~~ sat/ ~~had~~] warned all of the students to [~~bring/~~ pillow/ ~~horse~~] a sweater because the air might [~~be/~~ to/ ~~it~~] chilly in the cave. Cindy was [~~work/~~ jump/ ~~very~~] glad that she had brought her sweater.

[~~Rain/~~ Halt/ ~~The~~] bus driver started the engine and [~~the/~~ was/ ~~got~~] bus began to roll. The bus [~~rolled/~~ mother/ ~~girls~~] along the freeway. Finally the bus [~~lather/~~ coffee/ ~~pulled~~] onto a little country road that [~~ate/~~ led/ ~~pear~~] to the cave.

When the students arrived at the [~~goat/~~ math/ ~~cave~~], all they could [~~see/~~ kite/ ~~lot~~] was a mountain with a big [~~toys/~~ trees/ ~~black~~] hole in the side. A



Maze Fluency

- Juan's Maze Fluency
 - Circled 16 correct answers
 - Circled 7 incorrect answers
 - Made three consecutive mistakes (5 correct answers were after this point)
 - Juan's CBM score is 10



THE CAVE TRIP

Mrs. Jones said that Cindy's class [~~was~~/ step/ hill] going on a field trip. The [~~stare~~/ class/ green] of third graders had never been [~~be~~/ on/ so] a field trip before. Cindy was [~~bed~~/ went/ very] excited. Mrs. Jones said that the [class/ chair/ peach] was going on a field trip [at/ to/ is] see the caves up in the mountains. [Show/ And/ The] class had been studying about caves [for/ sad/ kill] the last few weeks. Cindy [wet/ and/ ill] her classmates had seen pictures of [shout/ caves/ sing]. Now, they were going to see [a/ see/ or] real cave.

A week later, the students [then/ her/ and] Mrs. Jones climbed onto a bus [four/ that/ dime] would take them to [and/ the/ sat] cave. It was early in the morning [so/ tap/ and] the air was chilly. Mrs. Jones [not/ sat/ had] warned all of the students to [bring/ pillow/ horse] a sweater because the air might [be/ to/ it] chilly in the cave. Cindy was [work/ jump/ very] glad that she had brought her sweater.

[Rain/ Halt/ The] bus driver started the engine and [the/ was/ got] bus began to roll. The bus [rolled/ mother/ girls] along the freeway. Finally the bus [lather/ coffee/ pulled] onto a little country road that [ate/ led/ pear] to the cave.

When the students arrived at the [goat/ math/ cave], all they could [see/ kite/ lot] was a mountain with a big [toys/ trees/ black] hole in the side. A

Practicing Reading CBM

Denise and her parents go to the river almost every weekend when the weather is warm. Her parents are expert kayakers, but this is only Denise's second summer paddling a kayak. Her parents have decided Denise is ready for some "big water" and are taking her to the Ocoee River.

Denise is a little nervous as she takes her boat off the car at the put-in. She dresses for the river by putting on a spray jacket over her bathing suit. The water is very cold, and the waterproof jacket helps keep her warm. She pulls her spray skirt around her waist. This makes a waterproof seal when she sits in the cockpit of the boat and pulls the skirt tightly around the rim of cockpit of the boat. After putting on her life jacket and helmet, she pulls her boat to the edge of the water and sits in it with her legs stretched out in front of her. She holds her paddle as someone slides her into the water.

Although she is a little anxious, she remembers to keep paddling smoothly. As she and her family approach the first big rapid, her mother suggests they get out of the boats and walk down the river to look at the rapid. This is called "scouting" a rapid. Paddlers watch the patterns of the water and currents and decide which is the safest way to paddle without flipping over.

They get back into their kayaks. Denise and her father sit in the calm waters of an eddy and watch as her mother runs the rapids. Denise's heart is pounding as she watches her father paddle his way through the rapid. It is her turn. Her parents are sitting in an eddy at the end of the rapid waiting for her to paddle her boat into the fast-moving white water.

11
24
34
48
50
65
80
92
105
120
134
149
164
172
183
195
209
222
236
240
253
266
278
293
308
311

Denise and her parents go to the river almost every weekend when the weather is warm. Her parents are expert kayakers, but this is only Denise's second summer paddling a kayak. Her parents have decided Denise is ready for some "big water" and are taking her to the Ocoee River.

Denise is a little nervous as she takes her boat off the car at the put-in. She dresses for the river by putting on a spray jacket over her bathing suit. The water is very cold, and the waterproof jacket helps keep her warm. She pulls her spray skirt around her waist. This makes a waterproof seal when she sits in the cockpit of the boat and pulls the skirt tightly around the rim of cockpit of the boat. After putting on her life jacket and helmet, she pulls her boat to the edge of the water and sits in it with her legs stretched out in front of her. She holds her paddle as someone slides her into the water.

Although she is a little anxious, she remembers to keep paddling smoothly. As she and her family approach the first big rapid, her mother suggests they get out of the boats and walk down the river to look at the rapid. This is called "scouting" a rapid. Paddlers watch the patterns of the water and currents and decide which is the safest way to paddle without flipping over.

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Practicing Reading CBM

- Grade 6 Passage Reading Fluency
 - Mark words read incorrectly with a slash (/)
 - Mark skipped lines with line drawn through the entire line (-----)
 - Mark the last word read correctly with a bracket (])



Math CBM

Grade	CBM Measure
Grade 1	Computation or Concepts and Applications
Grade 2	Computation or Concepts and Applications
Grade 3	Computation or Concepts and Applications
Grade 4	Computation or Concepts and Applications
Grade 5	Computation or Concepts and Applications
Grade 6	Computation or Concepts and Applications



Computation

- Student answers math computation problems for set amount of time.
- Score is number of digits answered correctly.

Grade	Time Limit
Grade 1	2 minutes
Grade 2	2 minutes
Grade 3	3 minutes
Grade 4	3 minutes
Grade 5	5 minutes
Grade 6	6 minutes



Computation

- Samantha's computation test
 - Samantha answered 53 digits correct score in 3 minutes.
 - Samantha's CBM score is 53.

Sheet #15		Computation 5		
Password: HAT				
Name: <u>Samantha</u>		Date: <u>November 16</u>		
A $\frac{3}{5} - \frac{2}{7} =$ $\frac{21}{35} - \frac{10}{35} = \frac{11}{35}$ ✓✓ ✓✓	B $\begin{array}{r} 5.697 \\ -3.300 \\ \hline 2.397 \end{array}$ ✓✓✓✓	C $\begin{array}{r} 27568 \\ +46047 \\ \hline 73605 \end{array}$ ✓✓✓✓	D $\frac{3}{7} + \frac{4}{7} = \frac{7}{7} = 1$ ✓	E $\begin{array}{r} 300 \\ \times 62 \\ \hline 600 \\ 1800 \\ \hline 18600 \end{array}$ ✓✓✓✓✓
F $8\frac{3}{11} - 2\frac{4}{11} =$	G $\begin{array}{r} 2 \\ 528 \\ \times 33 \\ \hline 1584 \\ 15840 \\ \hline 17424 \end{array}$ ✓✓✓✓✓	H $38 \overline{)76}$	I $\begin{array}{r} 3 \\ 599 \cancel{1} \\ -24915 \\ \hline 35026 \end{array}$ ✓✓✓✓✓	J Rename as improper: $8\frac{1}{2} = \frac{17}{2}$ ✓
K Reduce: ✓ $\frac{4}{6} = \frac{2}{3}$ ✓	L Rename as mixed: $\frac{16}{3} = 5\frac{1}{3}$ ✓	M $\begin{array}{r} 8.492 \\ +.160 \\ \hline 8.652 \end{array}$ ✓✓✓✓	N $5\frac{3}{5} + 2\frac{3}{5} =$ $7\frac{6}{5} = 8\frac{1}{5}$ ✓	O $\begin{array}{r} 66000 \\ 7594 \\ 248 \\ + 930 \\ \hline 74772 \end{array}$ ✓✓✓✓✓
P $\begin{array}{r} 10 \\ 8 \overline{)726} \\ \underline{72} \\ 06 \\ \underline{0} \\ 6 \end{array}$ R6 ✓	Q Reduce: ✓ $\frac{3}{12} = \frac{1}{4}$ ✓	R $\frac{8}{9} - \frac{1}{3} =$	S $\overline{)7847}$	T $\begin{array}{r} 68650 \\ - 7397 \\ \hline \end{array}$
U Rename as improper: $6\frac{2}{3} =$	V $28 \overline{)68}$	W $\frac{2}{3} + \frac{2}{9} =$	X Rename as mixed: $\frac{37}{8} =$	Y $\frac{2}{5} + \frac{2}{7} =$



Concepts and Applications

- Student answers math problems for set amount of time.
- Score is number of points correct.



Grade	Time Limit	Number of Problems
Grade 1	read aloud	22 problems
Grade 2	8 minutes	18 problems
Grade 3	6 minutes	24 problems
Grade 4	6 minutes	24 problems
Grade 5	7 minutes	23 problems
Grade 6	7 minutes	24–25 problems



Concepts and Applications

- Ben's concepts and applications test
 - Ben answered 21 blanks correctly in 8 minutes.
 - Ben's CBM score is 21.

Name Ben Date March 20 Test 13 Page 1

Column A	Column B						
<p>(1) Write the answer in the blank.</p> <p>Larry spends 31¢ at the toy store. Paul spends 43¢ more than Larry. How much money does Paul spend?</p> $\begin{array}{r} 31 \\ + 43 \\ \hline 74 \end{array}$ <p>✓ <u>74¢</u> ✓</p>	<p>(5) How much money?</p> <div style="text-align: center;">  </div> <p><u>\$1.02</u></p>						
<p>(2) Write the number in the blank.</p> <p>✓ <u>7</u> + 2 = 2 + 7</p>	<p>(6) Hours of Ball Practice</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Jordan</td> <td style="text-align: center;">⊙ ⊙ ⊙</td> </tr> <tr> <td style="padding: 2px;">Kimuli</td> <td style="text-align: center;">⊙ ⊙ ⊙ ⊙ ⊙ ⊙</td> </tr> <tr> <td style="padding: 2px;">Ebony</td> <td style="text-align: center;">⊙ ⊙ ⊙ ⊙ ⊙</td> </tr> </table> <p>Each ⊙ means 1 hour of practice</p> <p>Write the number in each blank.</p> <p>How many more hours does Kimuli practice ball than Ebony? <u>1</u> ✓</p> <p>How many hours does Jordan practice ball? <u>3</u> ✓</p> <p>How many fewer hours does Jordan practice ball than Ebony? <u>3</u></p>	Jordan	⊙ ⊙ ⊙	Kimuli	⊙ ⊙ ⊙ ⊙ ⊙ ⊙	Ebony	⊙ ⊙ ⊙ ⊙ ⊙
Jordan	⊙ ⊙ ⊙						
Kimuli	⊙ ⊙ ⊙ ⊙ ⊙ ⊙						
Ebony	⊙ ⊙ ⊙ ⊙ ⊙						
<p>(3) Write the time.</p> <div style="text-align: center;">  </div> <p><u>1:15</u></p>	<p>(7) Fill in the blanks.</p> <p>105 =</p> <p><u>1</u> hundreds <u>0</u> tens <u>5</u> ones</p>						
<p>(4) Counting by 3's, fill in the blanks.</p> <p>45, 48, 51, <u>52</u>, <u>53</u></p>							




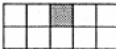
Concepts and Applications


Name Ben Date _____ Test 13 Page 2

Column C Applications 2 Column D

(8) Write the letter of the matching fraction in each blank.

✓ B  (A) $\frac{1}{3}$

✓ D  (B) $\frac{1}{2}$

A  (C) $\frac{1}{4}$

(D) $\frac{1}{10}$

(9) Write + or - in the blank.

$9 \overset{+}{\underset{\checkmark}{=}} 6 = 15$

(10) Write the number in the blank.

Of these numbers,
79 73 64

✓ 64 is the smallest.
✓ 79 is the largest.

(11) Counting by 2's, fill in the blanks.

8, 10, 12, 14, 15 ✓

(12) Write the number in the blank.

$10 + 1 = 1 + \underline{12}$

(13) Write the answer in the blank.

There are 13 white mice in the pet store and 14 gray mice. How many mice are there in all?

$\begin{array}{r} 13 \\ + 14 \\ \hline 27 \end{array}$ 27

(14) Look at this group of numbers.

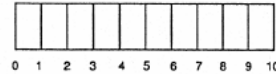
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20


Write the third number. 3 ✓
Write the fifteenth number. 15 ✓
Write the twentieth number. 20 ✓

Name _____ Date _____ Test 13 Page 3

Column E Applications 2 Column F

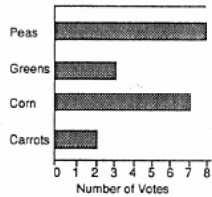
(15) How long is the whale?





10 units ✓

(16) Favorite Vegetables



Write the number in each blank.

How many more votes did corn get than carrots? 2

How many votes did greens get? 3 ✓

How many votes did greens and peas get together? 11 ✓

$\begin{array}{r} 43 \\ + 8 \\ \hline 51 \end{array}$


(17) Write + or - in the blank.

$10 \underline{-} 7 = 3$

(18) Write the letter in the blank.

The holiday play falls on which day of the week?

(A) Monday
(B) Wednesday
(C) Tuesday



Practicing Math CBM

- Grade 6 computation test
- 6 minutes

Sheet #8 Computation 6

Password: BAT

Name: _____ Date: _____

A $\begin{array}{r} 4.63 \\ \times 9.1 \\ \hline \end{array}$	B $4 \div \frac{1}{7} =$	C $\begin{array}{r} 65997 \\ + 20042 \\ \hline \end{array}$	D $9 \times \frac{3}{10} =$	E $\begin{array}{r} 40270 \\ + 94679 \\ \hline \end{array}$
F $\begin{array}{r} 253 \overline{)9281} \\ \hline \end{array}$	G $\begin{array}{r} 88062 \\ - 16325 \\ \hline \end{array}$	H $\begin{array}{r} 2.358 \\ \times 6.4 \\ \hline \end{array}$	I $\frac{3}{5} \div \frac{1}{3} =$	J $\frac{9}{11} - \frac{4}{11} =$
K $\begin{array}{r} 4.4 \overline{)924} \\ \hline \end{array}$	L $2\frac{2}{5} - 1\frac{1}{2} =$	M $\begin{array}{r} 9.271 \\ - 4.8129 \\ \hline \end{array}$	N $4\frac{4}{5} + 9\frac{2}{5} =$	O $\begin{array}{r} 25 \overline{)1291} \\ \hline \end{array}$
P $\begin{array}{r} 5.1 \overline{)459} \\ \hline \end{array}$	Q $3\frac{1}{5} + 5\frac{17}{20} =$	R $\frac{19}{20} + \frac{1}{5} =$	S $\begin{array}{r} 8870 \\ \times 369 \\ \hline \end{array}$	T $\begin{array}{r} 44 \overline{)64} \\ \hline \end{array}$
U $\begin{array}{r} 3.752 \\ + 1.45 \\ \hline \end{array}$	V $\frac{1}{2} \times \frac{3}{4} =$	W $\begin{array}{r} 69758 \\ - 32127 \\ \hline \end{array}$	X $\frac{2}{3} - \frac{1}{2} =$	Y $\begin{array}{r} 8913 \\ \times 836 \\ \hline \end{array}$



Practicing Math CBM

Grade 6 Test 8

42.133	28	86039	$2 \frac{7}{10}$	134949
36R173	71737	15.0912	$1 \frac{4}{5}$	$4 \frac{10}{11}$
.21	$\frac{9}{10}$	4.4581	$14 \frac{1}{5}$	51R16
90	$9 \frac{1}{20}$	$1 \frac{3}{20}$	3273030	1R20
5.202	$\frac{3}{8}$	37631	$\frac{1}{6}$	7451268





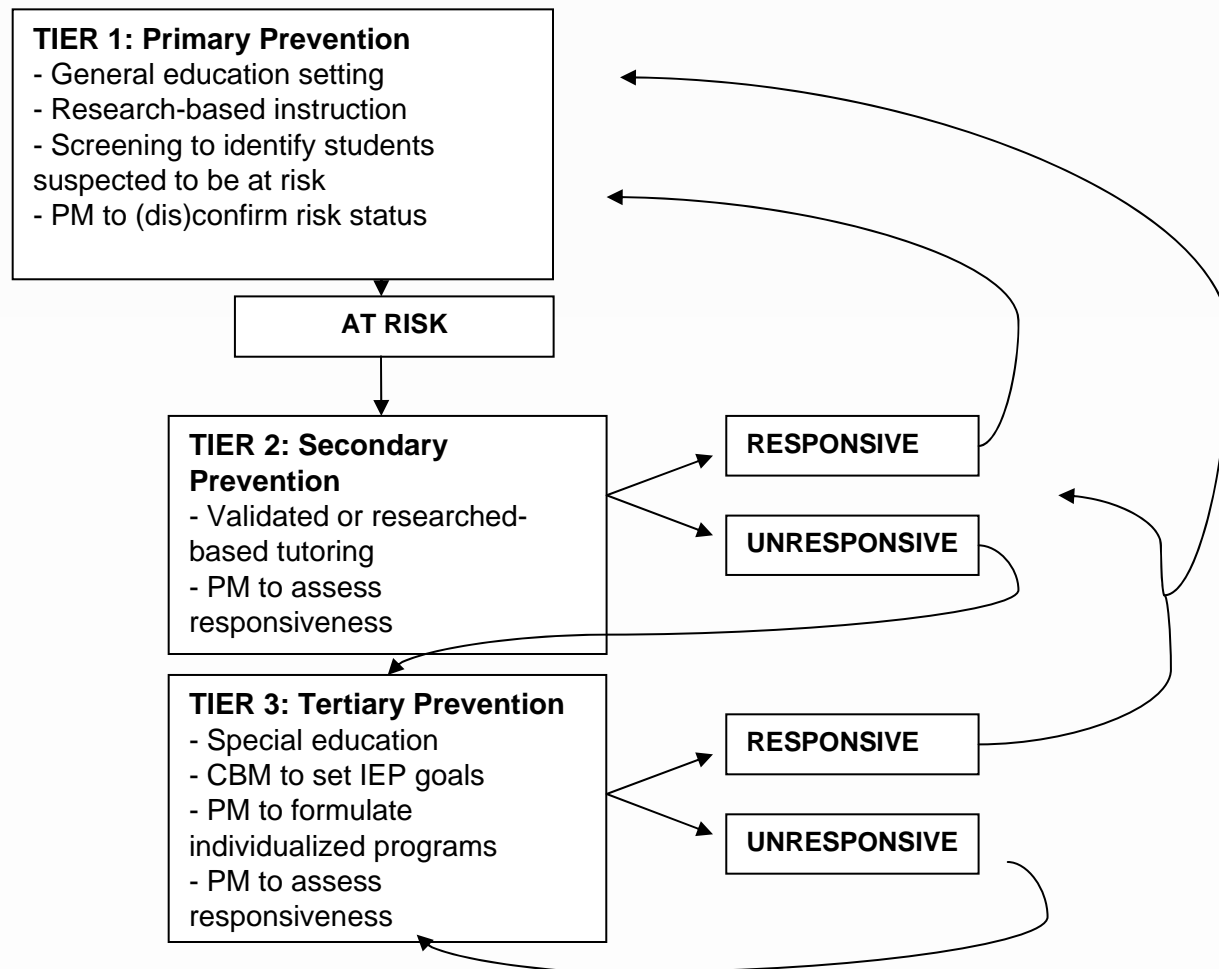
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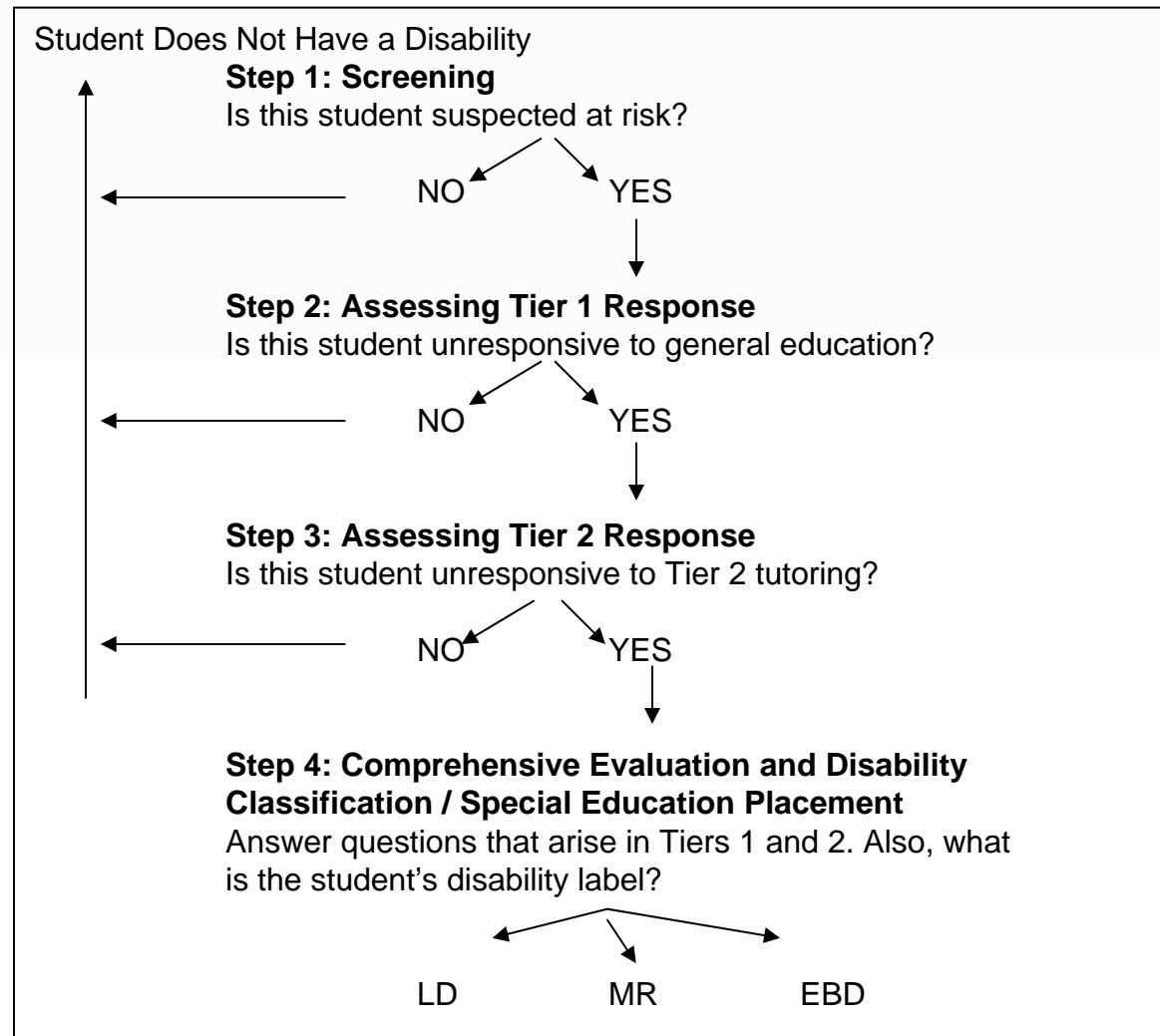


Three-Tier RTI Model

Three Tiers of RTI



Three Tiers of RTI



Three Tiers of RTI

TIER 1: Primary Prevention



TIER 2: Secondary Prevention

TIER 3: Tertiary Prevention



Tier 1 – Primary Prevention

- All students screened using CBM
- Students scoring below a cut-score are suspected at risk for reading or math difficulties
- Suspected at-risk students monitored for 6 to 10 weeks during primary prevention using CBM



Tier 1-Primary Prevention: Screening for Possible Reading Risk

Grade	CBM Probe	Cut-off
Kindergarten	Letter Sound Fluency	< 10 letters/minute
Grade 1	Word Identification Fluency	< 15 words on list/minute
Grade 2	Passage Reading Fluency	< 15 words in text/minute
Grade 3	Passage Reading Fluency	< 50 words in text/minute
Grade 4	Maze Fluency	< 10 Maze replacements/ 2.5 minutes
Grade 5	Maze Fluency	< 15 Maze replacements/ 2.5 minutes
Grade 6	Maze Fluency	< 20 Maze replacements/ 2.5 minutes

Note: These figures may change pending additional RTI research.



Tier 1-Primary Prevention: Screening for Possible Math Risk

Grade	Computation Cut-Off	Concepts & Applications Cut-Off
Grade 1	< 5 digits	< 5 points
Grade 2	< 10 digits	< 10 points
Grade 3	< 10 digits	< 10 points
Grade 4	< 10 digits	< 5 points
Grade 5	< 15 digits	< 5 points
Grade 6	< 15 digits	< 5 points

Note: These figures may change pending additional RTI research.



Tier 1–Primary Prevention: Confirming Risk Status With PM

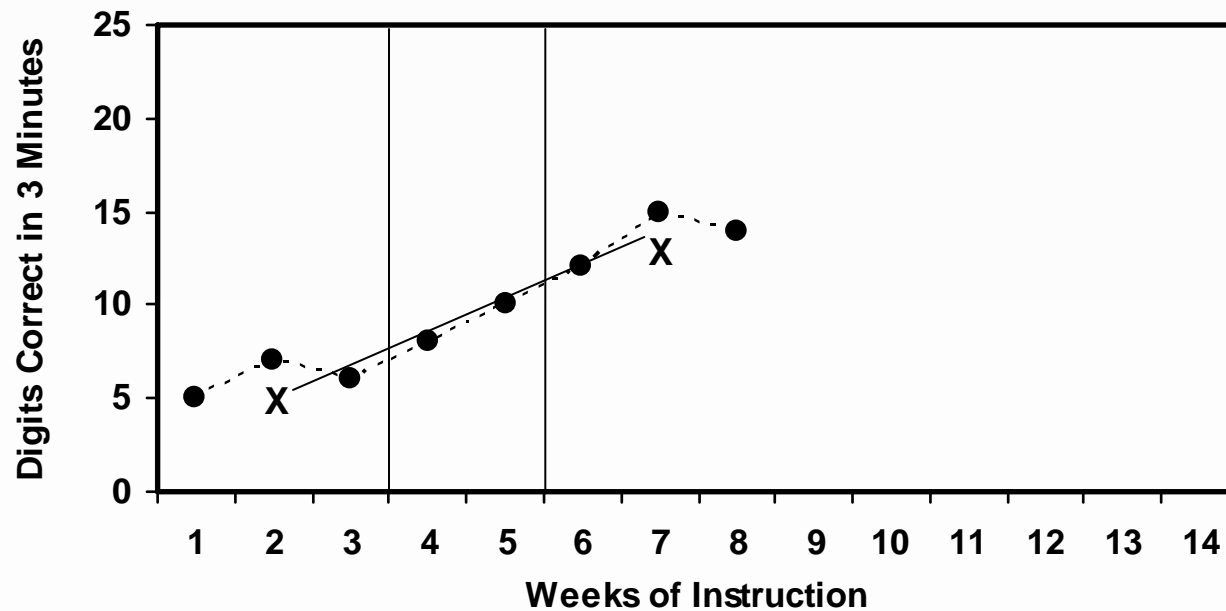
- At the end of 6 to 10 weeks, student risk status is confirmed or disconfirmed.

Grade	Inadequate Reading Slope	Inadequate Math Computation Slope	Inadequate Math Concepts and Applications Slope
Kindergarten	< 1 (LSF)	< 0.20	< 0.20
Grade 1	< 1.8 (WIF)	< 0.25	< 0.30
Grade 2	< 1 (PRF)	< 0.20	< 0.30
Grade 3	< 0.75 (PRF)	< 0.20	< 0.50
Grade 4	< 0.25 (Maze)	< 0.50	< 0.50
Grade 5	< 0.25 (Maze)	< 0.50	< 0.50
Grade 6	< 0.25 (Maze)	< 0.50	< 0.50

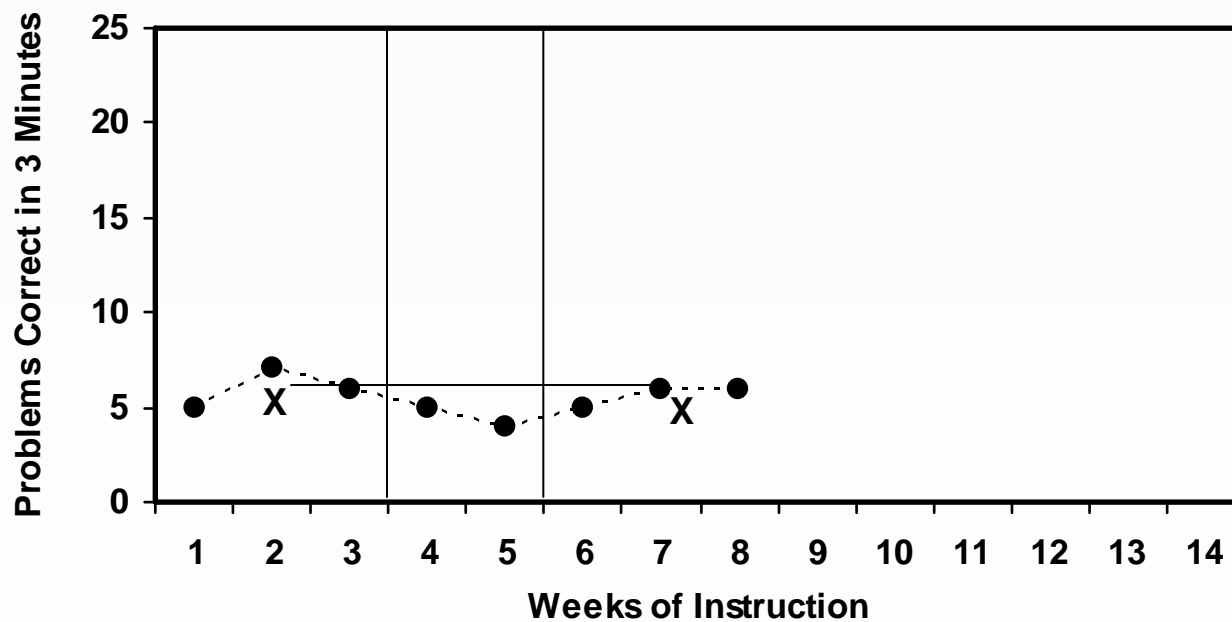
Note: These figures may change pending additional RTI research.



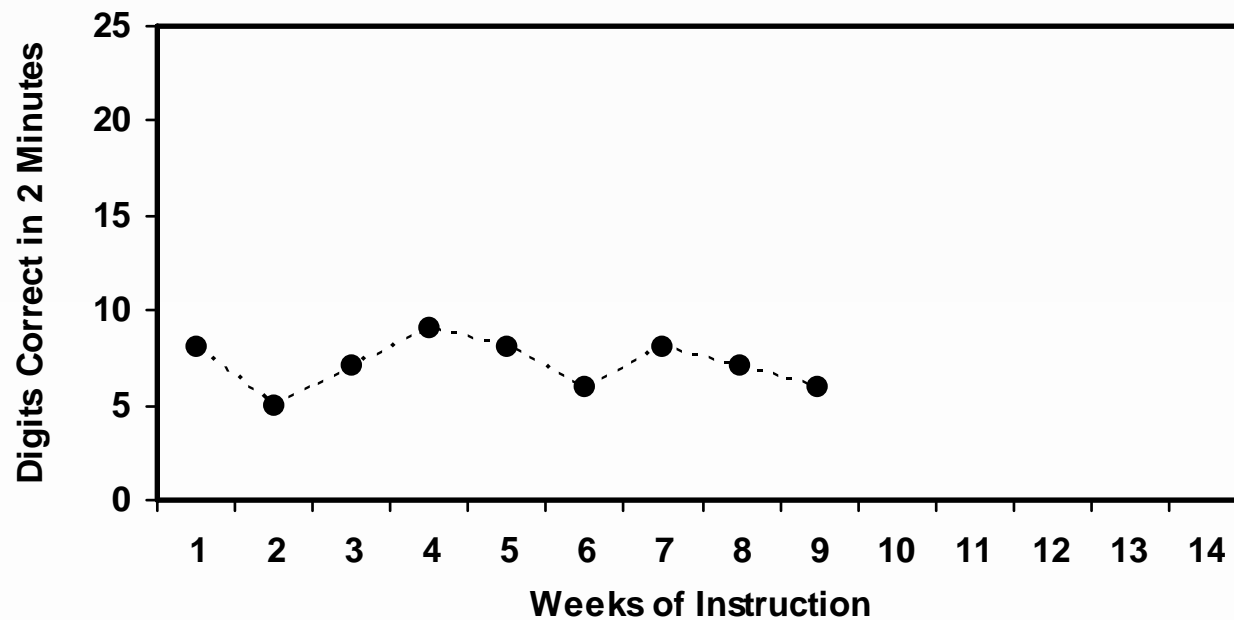
Tier 1-Primary Prevention: Confirming Risk Status With PM



Tier 1-Primary Prevention: Confirming Risk Status With PM



Tier 1-Primary Prevention: Confirming Risk Status With PM



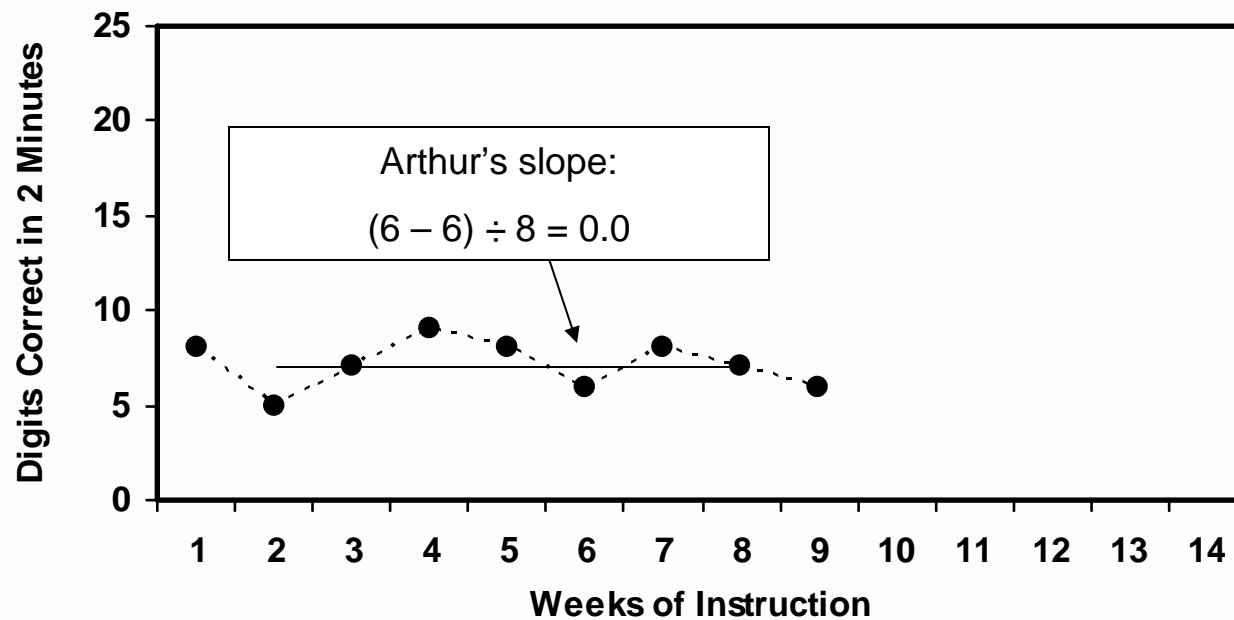
Tier 1-Primary Prevention: Confirming Risk Status With PM

Grade	Inadequate Reading Slope	Inadequate Math Computation Slope	Inadequate Math Concepts & Applications Slope
Kindergarten	< 1 (LSF)	< 0.20	< 0.20
Grade 1	< 1.8 (WIF)	< 0.25	< 0.30
Grade 2	< 1 (PRF)	< 0.20	< 0.30
Grade 3	< 0.75 (PRF)	< 0.20	< 0.50
Grade 4	< 0.25 (Maze)	< 0.50	< 0.50
Grade 5	< 0.25 (Maze)	< 0.50	< 0.50
Grade 6	< 0.25 (Maze)	< 0.50	< 0.50

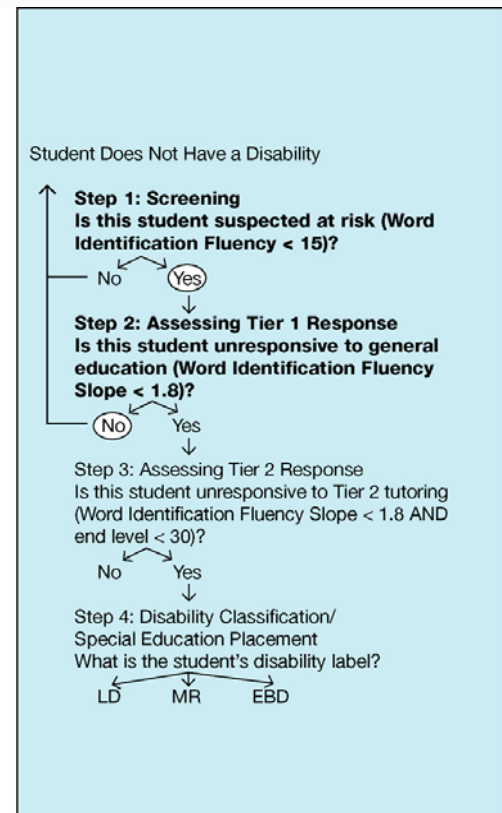
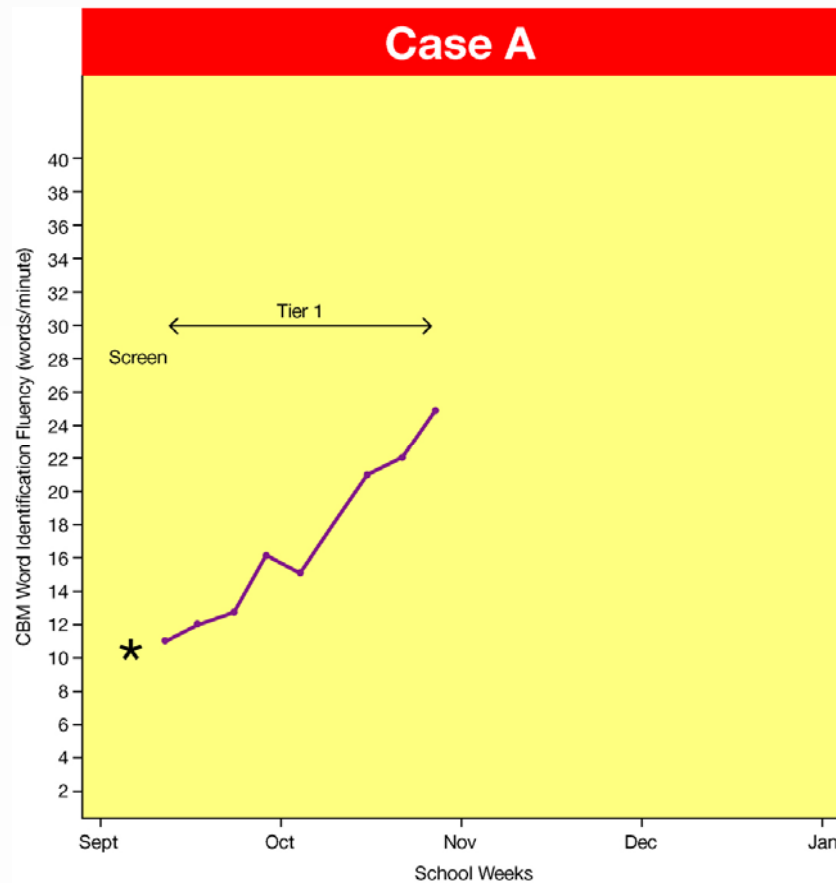
Note: These figures may change pending additional RTI research.



Tier 1-Primary Prevention: Confirming Risk Status With PM



Tier 1-Primary Prevention: Confirming Risk Status With PM



Tier 1–Primary Prevention: Review

- All classroom students screened to identify suspected at-risk students
- Suspected at-risk students remain in primary prevention and are monitored using CBM for 6–10 weeks
 - Students with adequate slopes remain in primary prevention
 - Students with inadequate slopes move to Tier 2 (secondary prevention)





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Enhancing Tier 1

An Example of
A Validated Practice

Peer-Assisted Learning Strategies in Reading and Math



2006

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on Student Progress Monitoring



PALS for Grades 2-6

Developed by Dr. Douglas Fuchs, Dr. Lynn
S. Fuchs, and colleagues at Vanderbilt
University

<http://www.peerassistedlearningstrategies.net>

PALS Research

- Based on Juniper Gardens Classwide Peer Tutoring model
- More than 15 years of experimental research
- Title I and non-Title I schools
- Urban and suburban schools
- High, average, and low achievers
- Students in special education
- “Validated Practice” status from U.S. Department of Education
- Validated in reading (preschool through grade 6 and high school)
- Validated in math (kindergarten through grade 6)
- All students in a class are paired, so that higher and lower performing students work on highly structured activities.



At grades 2-6, Three Activities. First is Partner Reading.

- Conducted for 11–12 minutes
- Stronger reader reads aloud for 5 minutes
- Weaker reader reads same text aloud for 5 minutes
- Weaker reader retells story for 1–2 minutes
- Readers read quickly, correctly, and with expression
- Coach listens, corrects mistakes, and marks points.
- Switch roles and repeat.



At grades 2-6, Three Activities. Second is Paragraph Shrinking.

- Conducted for 10 minutes
- Stronger reader reads new text aloud for 5 minutes, summarizing each paragraph
 - Name the most important who or what
 - Name the most important thing about the who or what
 - Shrink it to 10 or fewer words
- Weaker reader reads new text aloud for 5 minutes, summarizing each paragraph
- Coach listens, corrects mistakes, and marks points.
- Switch roles and repeat.



At grades 2-6, Three Activities. Third is Prediction Relay.

- Conducted for 10 minutes.
- Stronger reader
 - Reads one half page aloud
 - Makes prediction
 - Reads half page
 - Checks prediction
 - States main idea
 - Makes new prediction
 - Continues reading next half page and repeats
- Coach listens, corrects errors, and marks points
- Switch roles and repeat on next text.



Certificate of Validation



Important Features of PALS

- Reciprocal roles (coaches and readers)
 - Structured activities
 - Individualized
 - More time engaged on task
 - Includes all students
 - Opportunities for success for all students
 - Encourages positive peer interactions
 - Practical AND effective
-
- NOTES: (1) PALS is one example of a validated Tier 1 practice that can be added to a core reading program. Others also exist. (2) Some core reading programs are based on stronger research than other core programs.



Three Tiers of RTI

TIER 1: Primary Prevention

- General education setting
- Research-based instruction
- Screening to identify students suspected to be at risk
- PM to (dis)confirm risk status

At-risk students

TIER 2: Secondary Prevention

TIER 3: Tertiary Prevention



Three Tiers of RTI

TIER 1: Primary Prevention

- General education setting
- Research-based instruction
- Screening to identify students suspected to be at risk
- PM to (dis)confirm risk status



At-risk students



TIER 2: Secondary Prevention

TIER 3: Tertiary Prevention



Tier 2–Secondary Prevention: Small-Group Validated Tutoring Common Principles

- Students tutored in small groups (two to four students in each group)
- Tutoring takes place three or four times a week
- Each tutoring session lasts 30 to 60 minutes
- Tutoring lasts 10–20 weeks
- Tutoring conducted by resource personnel or paraprofessionals (not usually the classroom teacher)



Tier 2-Secondary Prevention: Small-Group Validated Common Principles

- Point system used for student motivation
- Immediate corrective feedback
- Students master content before moving on to more difficulty activities
- Tutors trained to implement tutoring with high level of fidelity
 - Practice with other tutors and non-tutored students
 - Meet weekly to problem solve and share ideas



Tier 2–Secondary Prevention: Example of Reading Tutoring

- Two to four students
- Four times a week outside regular classroom
- Nine weeks
- Forty-five minutes each session
 - Ten minutes, sight word practice
 - Five minutes, letter sounds practice
 - Fifteen minutes, decoding practice
 - Fifteen minutes, reading fluency practice



Tier 2–Secondary Prevention: Example of Reading Tutoring

Sounds and Words Lesson Sequence: First Grade Tutoring 2002-2003

TUTORING WEEK	TUTORING SET	TUTORING NEW SIGHT WORDS	TUTORING NEW SOUNDS	TUTORING OLD SIGHT WORDS	TUTORING OLD SOUNDS	TUTORING DECODABLE WORDS	STORY
1	1	and, is	a, m, t, s			am, Sam, at	Sam pg 2
	2	the				mat, sat, am, Sam, at	Tat
	3	I				mat, sat, am, Sam, at	Sam pg 2
	4	on	c			cat, mat, sat, am, Sam, at	Fat Cat
2	5	with				cat, mat, sat, am, Sam, at	Tat
	6		b			bat, cat, mat, sat, am, Sam, at	Sam at Bat
	7	have	i			sit, bit, bat, cat, mat, sat, am, at	Tab
	8		f			fit, fat, sit, bit, bat, cat, mat, sat	At Bat pg 13
3	9	find	n	have, with, on, I, the, and, is	f, i, b, c, a, m, t, s	tan, fan, can, fit, fat, sit, bit, bat	Tan
	10	has	d	find, have, with, on, I, the, and, is	n, f, i, b, c, a, m, t	sad, mad, tan, fan, can, fit, fat, sit	Ham, Jam
	11	one		has, find, have, with, on, I, the, and	d, n, f, i, b, c, a, m, t	Dan, sad, mad, tan, fan, can, fit, fat	At Bat pg 12
	12	two	r	one, has, find, have, with, on, I, the	d, n, f, i, b, c, a, m	rat, ram, sad, mad, tan, fan, can, fit	Sam pg 7
4	13	said		two, one, has, find, have, with, on, I	r, d, n, f, i, b, c, a, m	rat, ram, sad, mad, tan, fan, can, fit	Sam pg 11
	14	see	o	said, two, one, has, find, have, with, on	r, d, n, f, i, b, c, a	Tom, rat, ram, sad, mad, tan, fan, can	The pg 5
	15	was	g	see, said, two, one, has, find, have, with	o, r, d, n, f, i, b, c	bag, rag, nag, dog, rat, ram, sad, mad	A Tin Pig p 25
	16	be		was, see, said, two, one, has, find, have	g, o, r, d, n, f, i, b, c	bag, rag, nag, dog, rat, ram, sad, mad	Jam pg 8



Tier 2–Secondary Prevention: Example of Reading Tutoring

GROUP TUTORING

ACTIVITIES

Before beginning a tutoring session, materials should be ready:
Materials that you'll need are listed under each activity. Make sure you have all the appropriate materials, and that your sounds, words, and stories match up with those in the lesson sequence.

NOTE: For all activities:

- Listen carefully to the group to make sure you catch and correct individual errors during choral response activities.
- Keep a brisk pace.
- Stay organized: as soon as you are finished with a set of cards, put them up in the appropriate envelopes.
- If a student is having difficulty, always model the item for the student, then have them repeat it: "Listen to me. Appropriate prompting strategies."
- If a student is echoing other students in the other group, call on the student individually, so they can get an extra opportunity to practice.
- Positively reinforce the students in the group who are on-task. Use points to direct students towards desirable behaviors, rather than using them as a threat to students who are exhibiting undesirable behaviors.
- If students were off-task for most of the activity, you do not need to award them points. Awarding points is up to your discretion. You may choose to only award points to students who were on-task.
- Be on the lookout for any positive behaviors from students who typically misbehave. Try to "catch them doing good." Award points generously whenever they are doing what they should be doing.
- If students are asking questions, keep your answers in response as brief as possible and quickly re-direct them back on-task.

SIGHT WORDS - 10 minutes

Materials:

- Sight word cards—one set for each student
- Student notebooks
- Point sheets

Set Count-up timer.

Set Countdown timer for 8 minutes.

Introduce new sight word.

1. To introduce new words: "Let's look at our new word for today. I'm going to say it and then spell it"
2. Show each new word card and say, "This word is 'the.' What word?"
3. All 3 students should respond chorally, "The."
4. Point to the word card and say, "Say this after me. 'The,' 't' - 'h' - 'e.'"
5. All 3 students should respond chorally, "The, 't' - 'h' - 'e.'"
6. Repeat steps 2 - 5 if there are other new sight words.

Review new sightword from previous lesson if there is not a new sight word.

7. To review new words: "Let's look at our new word from last time. I'm going to say it and then spell it"
8. Show each new word card and say, "This word is 'the.' What word?"
9. All 3 students should respond chorally, "The."
10. Point to the word card and say, "Say this after me. 'The,' 't' - 'h' - 'e.'"
11. All 3 students should respond chorally, "The, 't' - 'h' - 'e.'"
12. Repeat steps 7 - 11 if there are other new sight words from the previous set to review.

LY
11/04/02

1



Tier 2–Secondary Prevention: Example of Reading Tutoring

+	-	NA	
			1. The tutor introduces the new sight word, or if there is no new word, introduces the sight word from the previous set. The tutor states the sight word and spells it.
			2. The tutor asks the students to repeat the sight word and spell it.
			3. The tutor asks students to state chorally each sight word in the set (“What word?”)
			4. If the students say a word incorrectly, the tutor says the correct word and the student repeats it.
			5. The tutor presents each sight word to each student individually and asks the student to state the word.
			6. If the students say a word incorrectly, the tutor says the correct word and asks the student to repeat it.
			7. The tutor repeats steps 5-6 with any sight words said incorrectly on the first trial.
			8. The tutor asks students to state the sight word for the day.
			9. Tutor asks students to write the new sight word.
			10. If the student has written the sight word correctly, the tutor states that it is correct and asks the student to write the word again. Tutor repeats this step with each of the students.
			11. If a student has difficulty writing the sight word, the tutor shows the sight word again and instructs the student to write it.
			12. If any words are misread on the second trial, the tutor marks on the mastery sheet that the group will repeat the entire set.



Tier 2-Secondary Prevention: Example of Reading Tutoring

Set 64 starts here

over	soon	old
put	came	were
when	white	take
aw	ar	ir



Tier 2-Secondary Prevention: Example of Reading Tutoring

DATA SHEET FOR RECORDING STUDENT SET

Students: _____

Teacher: _____
 Tutor: _____

Criteria: The first time a group has worked with a particular set: if any of the students still have any cards in the "Practice" pile after the second round of individual responses on the SIGHT WORDS, the entire group will repeat that set again. Write an "R" if the group needs to repeat a set. If none of the students have cards in the "Practice" pile after the second round of individual responses on the SIGHT WORDS, write a ✓. The group will start the next set during the next tutoring session.

If it is the second time a group has worked with a particular set: Write a ✓. The group will start the next set during the next tutoring session.

Session #	Date	Set	Repeat or ✓ Move on	Did not master during session	Absent	Did a student's behavior interfere with their own or other's learning process? If so, please make brief comments (e.g., defiant, inattentive, etc.)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						



Tier 2-Secondary Prevention: Example of Reading Tutoring

Set 64

Sam Helps With Zack

Sam has a baby brother, Zack.

Zack is small and needs lots of help.

Mom puts Zack in his blue sleeper, and

Sam zips the zipper.

When Zack is hungry, Sam helps feed him.

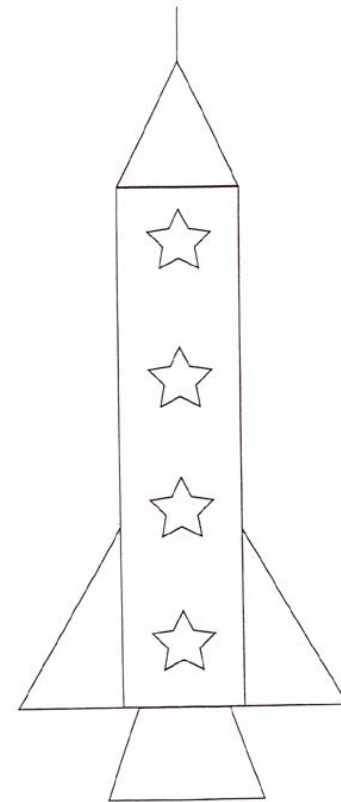
Mom sings Zack to sleep.

She says, "Sam, you are such a big help!"



#1

Name _____



Tier 2–Secondary Prevention: Example of Math Tutoring

- Tutoring:
 - Two to three students
 - Four times a week outside regular classroom
 - Sixteen weeks
 - Thirty minutes tutoring
 - Number concepts
 - Numeration
 - Computation
 - Story problems
 - Ten minutes computer basic facts practice



Tier 2–Secondary Prevention: Example of Math Tutoring

TUTORING TOPICS

- Identifying and writing numbers to 99
- Identifying more, less, and equal with objects
- Sequencing numbers
- Using $<$, $>$, and $=$ symbols
- Skip counting by 10s, 5s, and 2s
- Understanding place value
- Identifying operations
- Place value (0–50)
- Writing number sentences
- Place value (0–99)
- Addition facts (sums to 18)
- Subtraction facts (minuends to 18)
- Review of addition and subtraction facts
- Review of place value
- Two-digit addition (no regrouping)
- Two-digit subtraction (no regrouping)
- Missing addends



Tier 2–Secondary Prevention: Example of Math Tutoring

Topic 7
Place Value
Day 1

Objectives

Students will:
Identify tens and ones place value

Materials

Review sheet 6
Topic 7 Day 1 Tutoring Sheet 1
Topic 7 Day 1 Tutoring Sheet 2
Base 10 Blocks
Paper
Pencil
Point Sheet

Mastery Criteria: Topic 7 Day 1 Tutoring Sheet 2: 9/9.

Tutor: The first thing we need to do today is complete this review sheet. I'll read the questions and you write the answers.

Read directions and allow time for students to answer.

Today we'll continue working on place value. Last time we looked at rods and cubes on paper and wrote the number. Today, I'm going to show you rods and cubes and you're going to draw the numbers. Let me show you what I mean.

Give students Topic 7 Day 1 Tutoring Sheet 1.

Put 2 rods and 4 cubes in front of students.

Look, we have 2 rods (point). What do rods mean?

If students give incorrect answer, tutor says **rods mean 10. What do rods mean?**

Students: 10.



Tier 2–Secondary Prevention: Example of Math Tutoring

8

_____ is the number before 8.
The number after 8 is _____.

17 _____ 19

_____ is the number between
17 and 19.

35 _____ 37

_____ is the number between
35 and 37.

34

_____ is the number before
34.
The number after 34 is _____.

40

_____ is the number before 40.
The number after 40 is _____.

24 _____ 26

_____ is the number between
24 and 26.



Tier 2-Secondary Prevention: Example of Math Tutoring



The image shows a math tutoring interface. On the left, a vertical addition problem is displayed:
$$\begin{array}{r} 9 \\ +2 \\ \hline 11 \end{array}$$
 Below the numbers are the place value labels '1' and '1'. To the right of the problem is a base-ten block model consisting of one ten-block and one one-block. A yellow oval button labeled 'Done' is positioned to the right of the blocks. At the top of the interface is a progress bar with 15 empty boxes. Below the addition problem are the numbers '1', '2', '3', '4', and '5', followed by a small icon of a person. At the bottom of the interface is a keyboard icon, a text box containing the word 'Spacebar', and another keyboard icon.

Tier 2-Secondary Prevention: Example of Math Tutoring

The screenshot displays a math tutoring interface. At the top right, there is a progress bar consisting of 10 segments, with the first 8 segments filled in blue and the last 2 in yellow. The main area shows a vertical addition problem: $9 + 2$. The numbers are displayed in a yellow box with a horizontal line below them. Below the numbers are two empty yellow boxes for the answer. To the right of these boxes is a yellow oval button labeled "Done". Below the addition problem is a row of five numbered boxes (1, 2, 3, 4, 5) and a small icon of a hand. A red rectangular box is positioned below these numbers. At the bottom center, there is a button labeled "Spacebar" with hand icons on either side.



Tier 2–Secondary Prevention: Determining Response in Reading

Grade	CBM Probe	< Slope	< End Level
Kindergarten	Letter Sound Fluency	< 1	< 30
Grade 1	Word Identification Fluency	< 1.8	< 30
Grade 2	Passage Reading Fluency	< 1	< 60
Grade 3	Passage Reading Fluency	< 0.75	< 70
Grade 4	Maze Fluency	< 0.25	< 25
Grade 5	Maze Fluency	< 0.25	< 25
Grade 6	Maze Fluency	< 0.25	< 25

Note: These figures may change pending additional RTI research.



Tier 2–Secondary Prevention: Determining Response in Math

Grade	Computation		Concepts and Applications	
	< Slope	< End level	< Slope	< End level
Grade 1	< 0.50	< 20 digits	< 0.40	< 20 points
Grade 2	< 0.40	< 20 digits	< 0.40	< 20 points
Grade 3	< 0.40	< 20 digits	< 0.70	< 20 points
Grade 4	< 0.70	< 20 digits	< 0.70	< 20 points
Grade 5	< 0.70	< 20 digits	< 0.70	< 20 points
Grade 6	< 0.70	< 20 digits	< 0.70	< 20 points

Note: These figures may change pending additional RTI research.

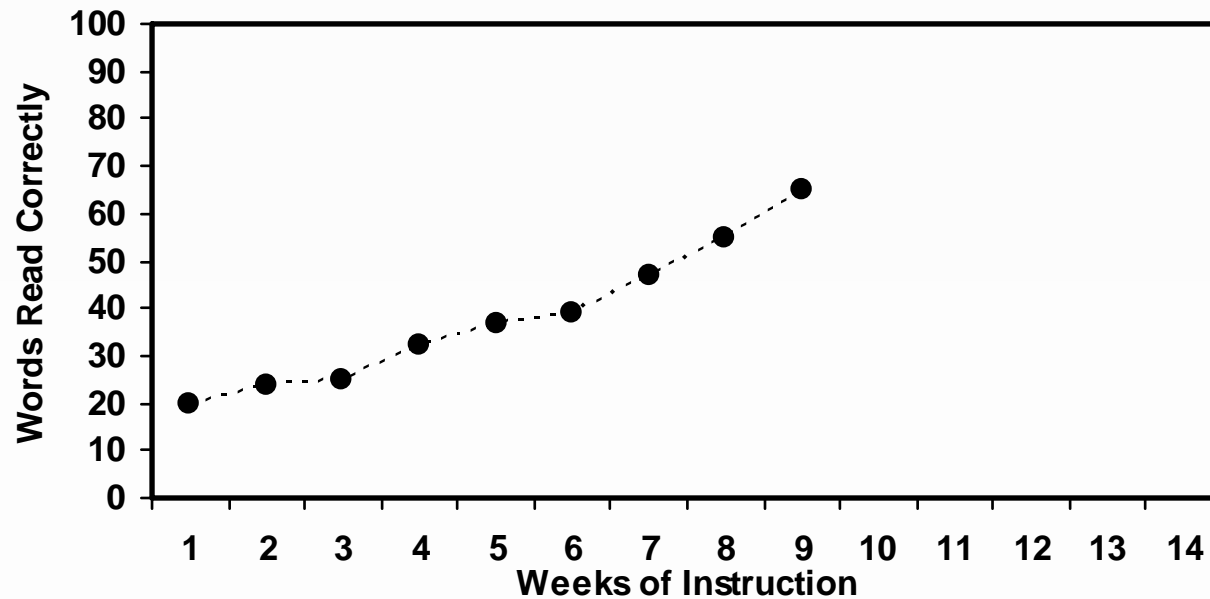


Tier 2–Secondary Prevention: Inadequate Response

- If student response to secondary prevention is inadequate:
 - In some RTI versions:
 - Student participates in more small-group tutoring while weekly progress monitoring continues.
 - In the RTI model we’re discussing:
 - Student moves to Tier 3 (tertiary prevention)
 - Comprehensive evaluation answers questions, determines disability, and suggests what special education services are appropriate.



Tier 2-Primary Prevention: Determining Response With PM



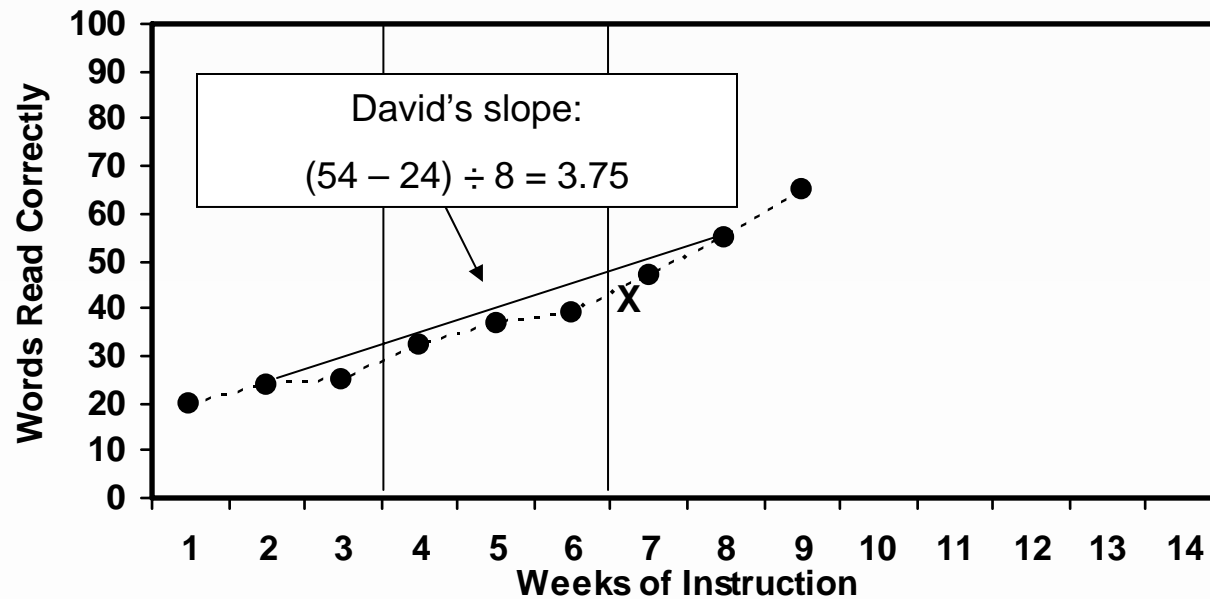
Tier 2–Secondary Prevention: Confirming Risk Status With PM

Grade	CBM Probe	< Slope	< End level
Kindergarten	Letter Sound Fluency	< 1	< 30
Grade 1	Word Identification Fluency	< 1.8	< 30
Grade 2	Passage Reading Fluency	< 1	< 60
Grade 3	Passage Reading Fluency	< 0.75	< 70
Grade 4	Maze Fluency	< 0.25	< 25
Grade 5	Maze Fluency	< 0.25	< 25
Grade 6	Maze Fluency	< 0.25	< 25

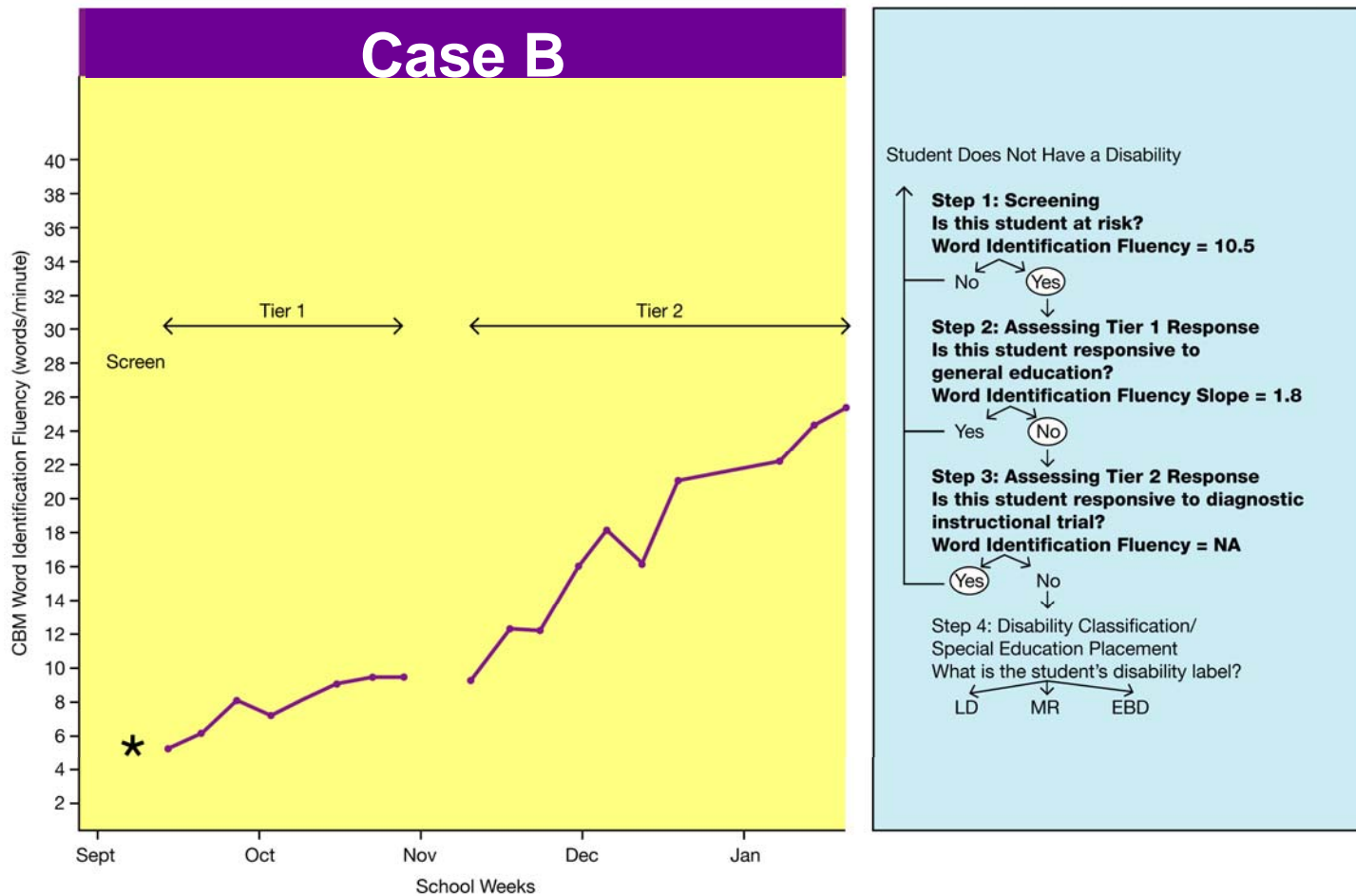
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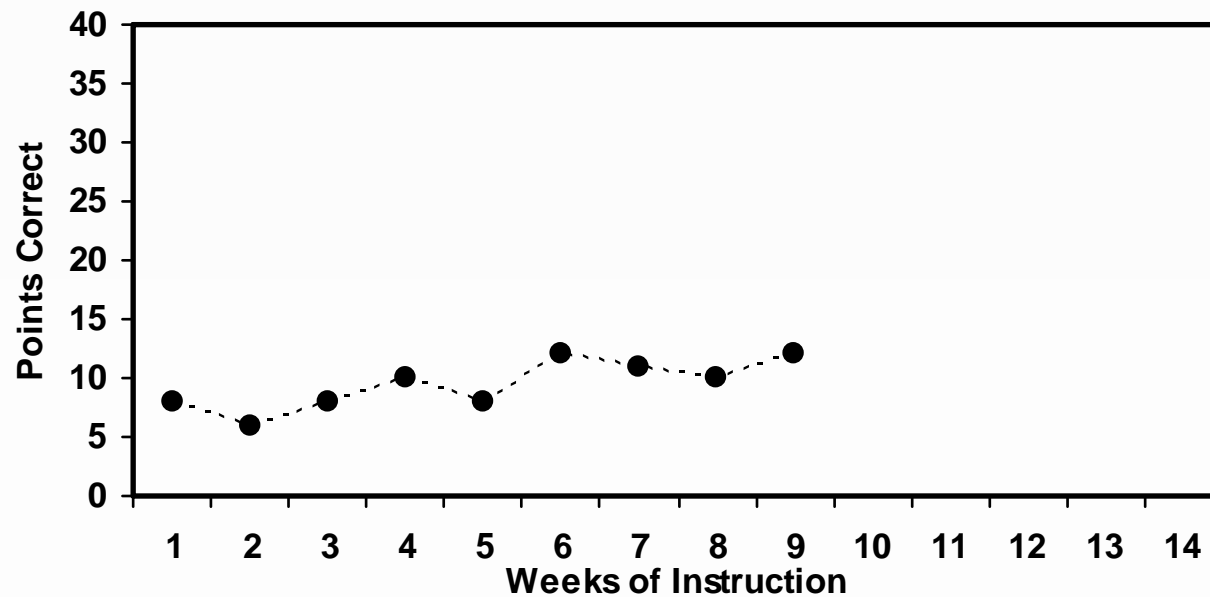
Tier 2-Primary Prevention: Determining Response With PM



Tier 2-Secondary Prevention



Tier 2-Primary Prevention: Determining Response With PM



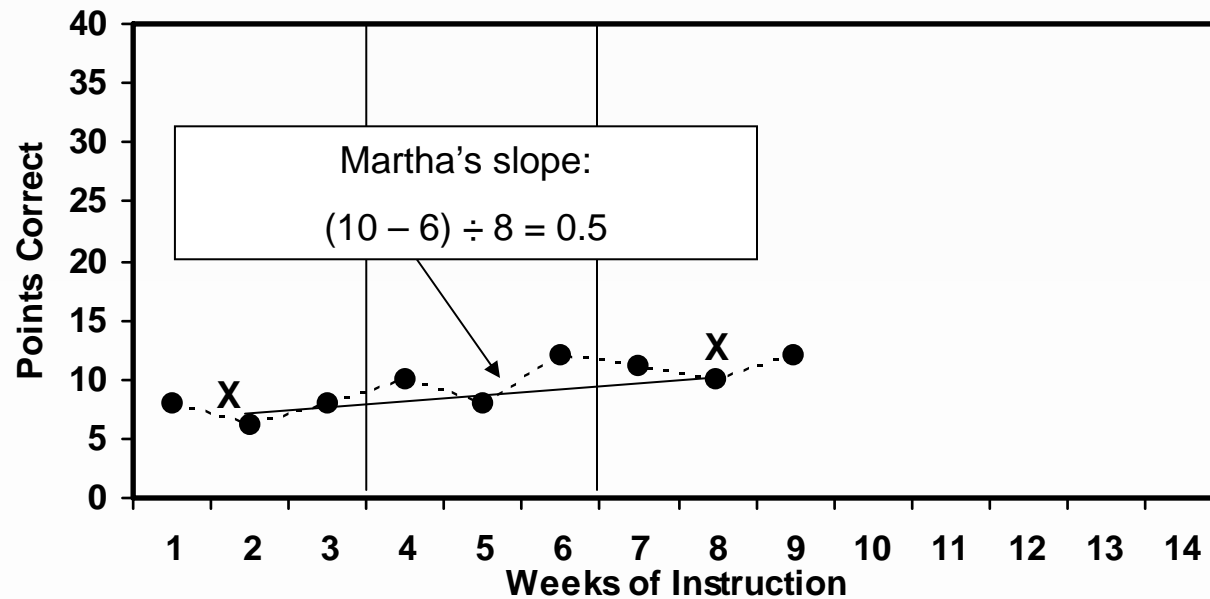
Tier 2-Secondary Prevention: Confirming Risk Status With PM

Grade	Computation		Concepts & Applications	
	< Slope	< End level	< Slope	< End level
Grade 1	< 0.50	< 20 digits	< 0.40	< 20 points
Grade 2	< 0.40	< 20 digits	< 0.40	< 20 points
Grade 3	< 0.40	< 20 digits	< 0.70	< 20 points
Grade 4	< 0.70	< 20 digits	< 0.70	< 20 points
Grade 5	< 0.70	< 20 digits	< 0.70	< 20 points
Grade 6	< 0.70	< 20 digits	< 0.70	< 20 points

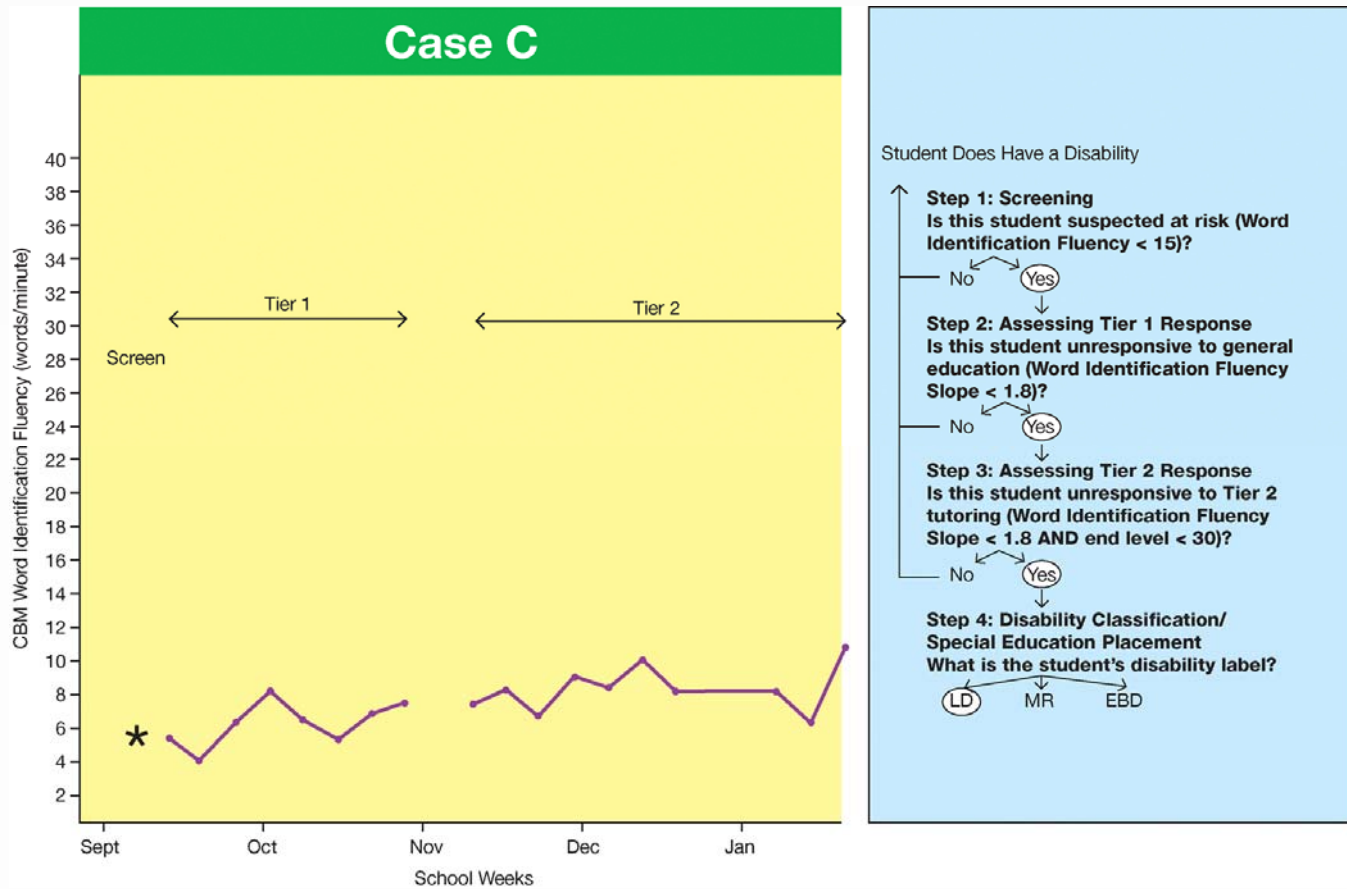
Note: These figures may change pending additional RTI research.



Tier 2-Primary Prevention: Determining Response With PM



Tier 2-Secondary Prevention

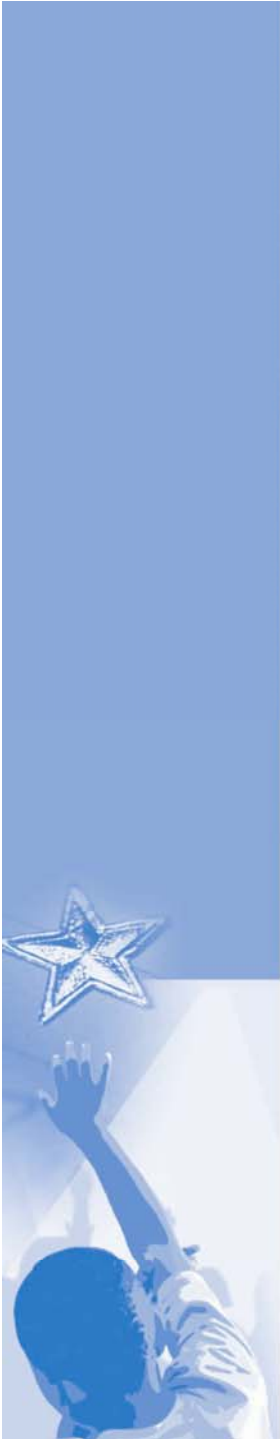
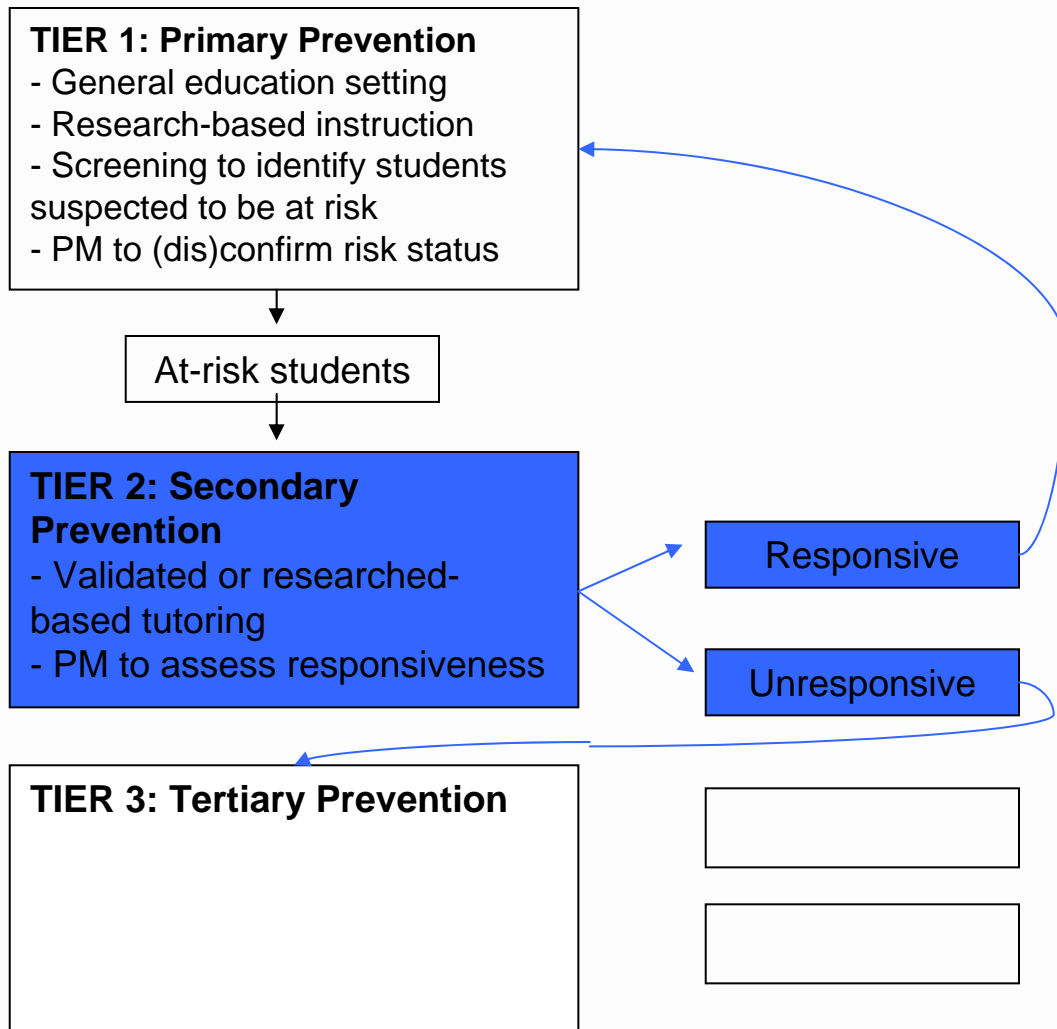


Tier 2–Secondary Prevention: Review

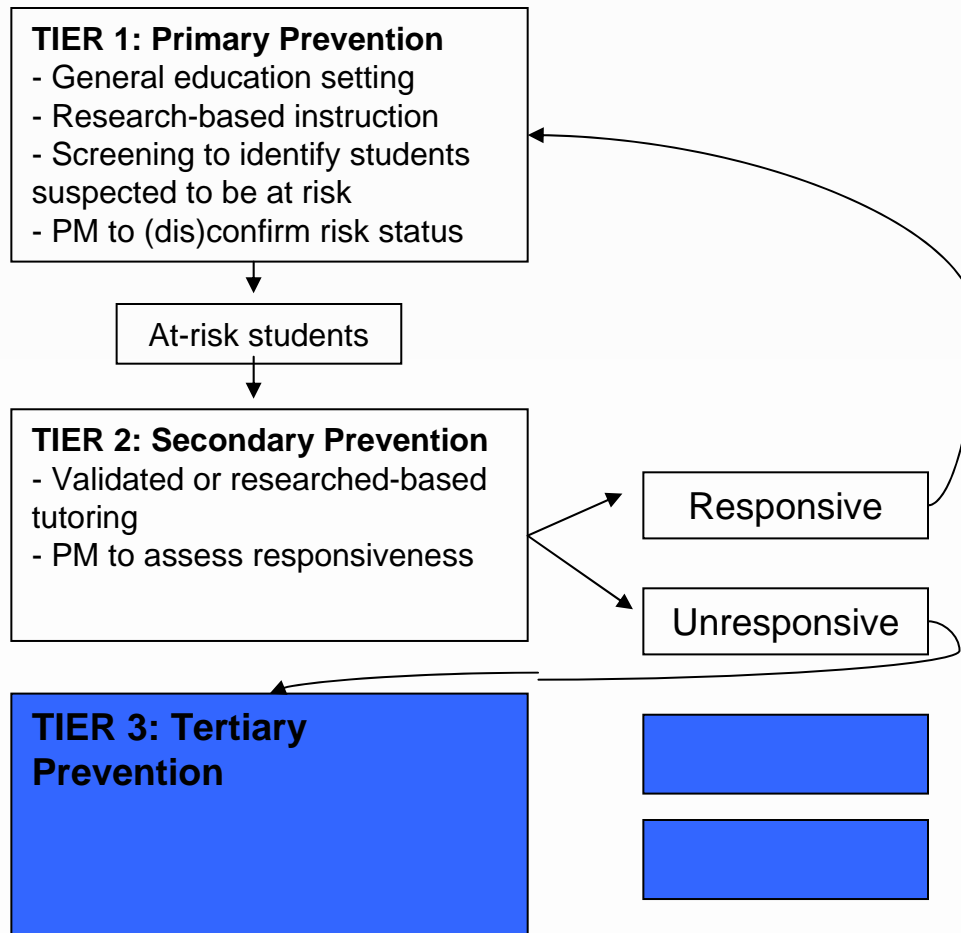
- Suspected at-risk students with inadequate CBM performance in Tier 1 tutored in small groups
 - Tutoring uses research-based interventions taught by school tutors
- Student progress monitored weekly
 - Students with adequate slopes return to primary prevention, with continued PM
 - Students with inadequate slopes move to tertiary prevention (Tier 3)



Three Tiers of RTI



Three Tiers of RTI



Tier 3-PM in Tertiary Prevention

- IEP goals established for individual student.
- Individualized programs are formulated for individual student.
- Student progress is monitored weekly.
 - With adequate slopes or end levels, students return to secondary or primary prevention.

First, need to identify level of material where PM should be conducted (at instructional level).



Finding Level for Reading PM

- Determine student reading grade level at year's end.
- Administer three passages at this level:
 - Fewer than 10 correct words, use Word Identification Fluency
 - Between 10 and 50 words, but less than 85–90% correct, move to next lower level of test and administer three passages at this level
 - More than 50 correct words, move to highest level of text where student reads 10–50 words
- Maintain appropriate level for entire year.



Finding Level for Math PM

1. Determine student math grade level at year's end
2. On 2 separate days, administer two CBM tests at grade level lower
 - If average score is less than 10, move down one level
 - If average score is between 10 and 15, use this level
 - If average score is greater than 15, reconsider grade-level material
3. Maintain appropriate level for entire year



Tier 3-PM in Tertiary Prevention: Setting IEP Goals

- Three options for setting IEP goals:
 1. End-of-year benchmarking
 2. Intra-individual framework
 3. National norms for weekly rate of improvement (slope)



Tier 3-PM in Tertiary Prevention: Setting Goals With End-of-Year Benchmarking

- Setting IEP goals
 - End-of-year benchmarking
 - Identify appropriate grade-level benchmark
 - Mark benchmark on student graph with an X
 - Draw goal line from first three CBM scores to X



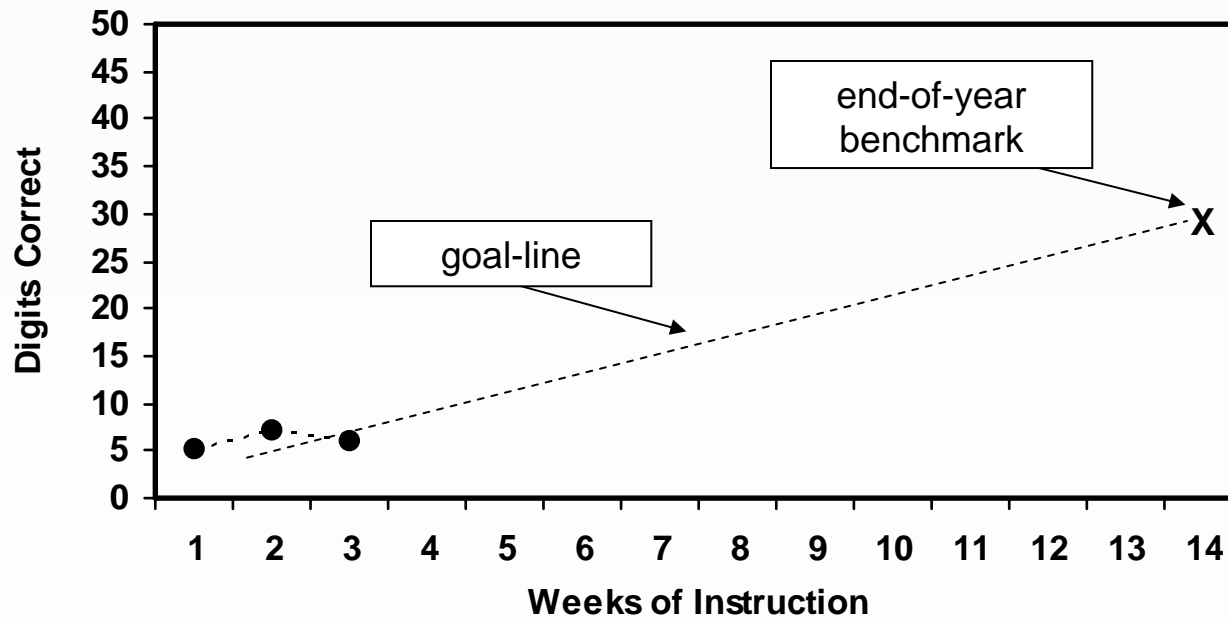
Tier 3-PM in Tertiary Prevention: Setting Goals With End-of-Year Benchmarking

Grade	Reading	Computation	Concepts and Applications
Kindergarten	40 sounds/minute (LSF)	---	---
Grade 1	60 words/minute (WIF)	20 digits	20 points
Grade 2	75 words/minute (PRF)	20 digits	20 points
Grade 3	100 words/minute (PRF)	30 digits	30 points
Grade 4	20 replacements/2.5 minutes (Maze)	40 digits	30 points
Grade 5	25 replacements/2.5 minutes (Maze)	30 digits	15 points
Grade 6	30 replacements/2.5 minutes (Maze)	35 digits	15 points

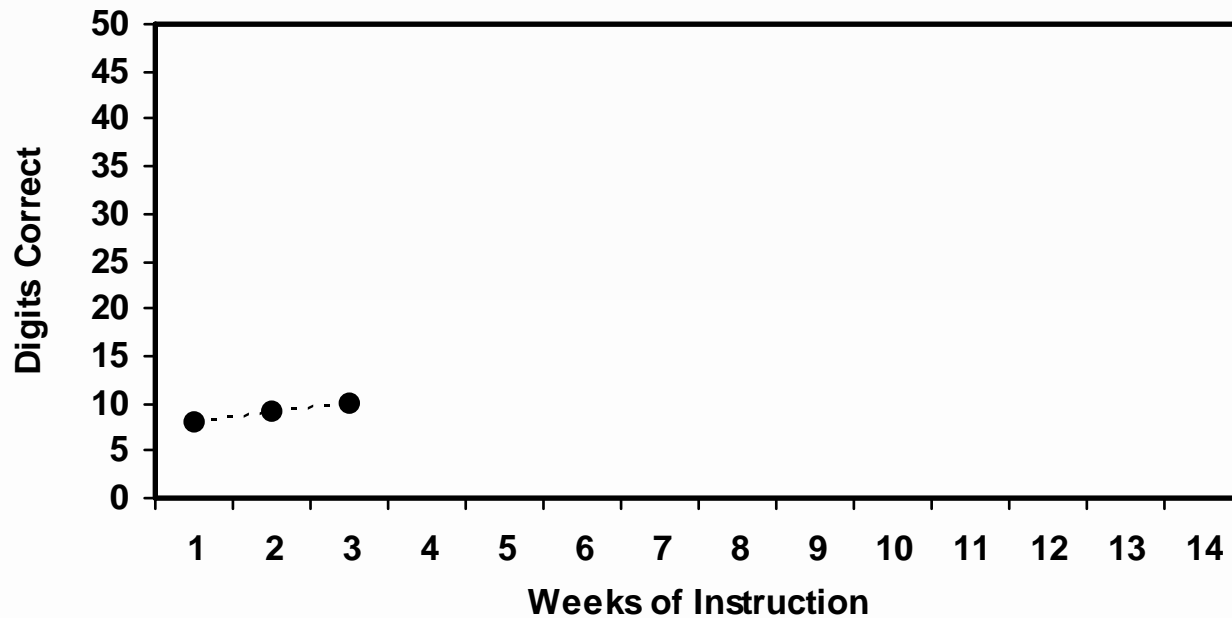
Note: These figures may change pending additional RTI research.



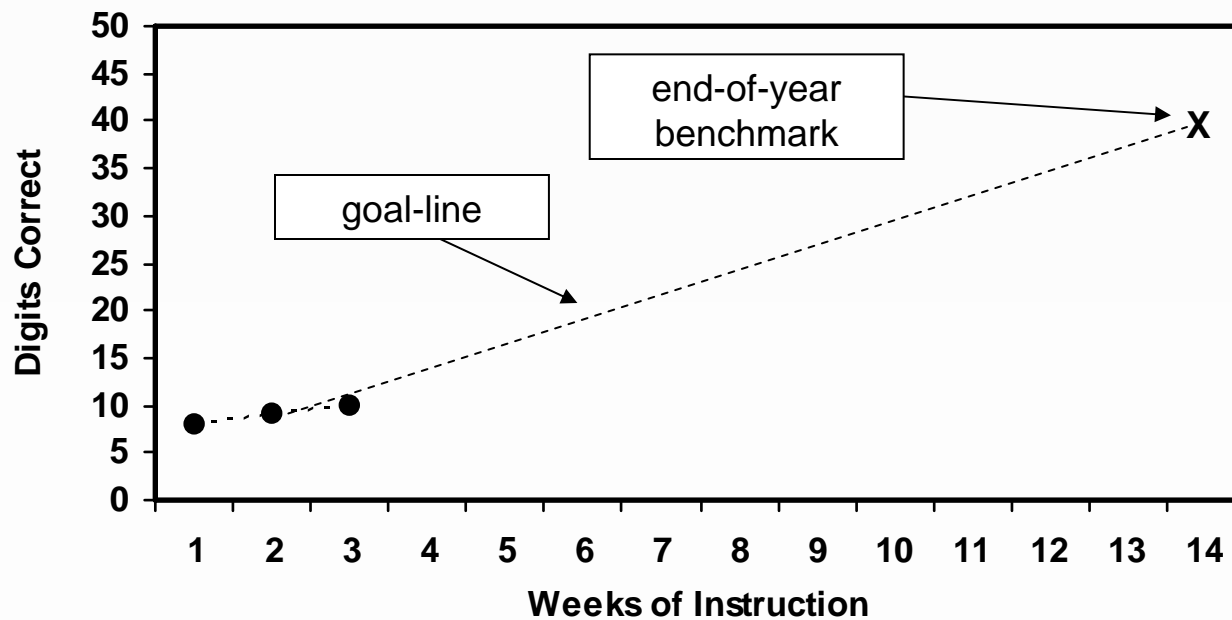
Tier 3-PM in Tertiary Prevention: Setting Goals With End-of-Year Benchmarking



Tier 3-PM in Tertiary Prevention: Setting Goals With End-of-Year Benchmarking



Tier 3-PM in Tertiary Prevention: Setting Goals With End-of-Year Benchmarking



Tier 3-PM in Tertiary Prevention: Setting Goals With Intra-Individual Framework

- Setting IEP goals:
 - Intra-individual framework
 - Identify weekly rate of improvement (slope) using at least eight data points
 - Multiply slope by 1.5
 - Multiply by number of weeks until end of year
 - Add to student's baseline score
 - This is the end-of-year goal

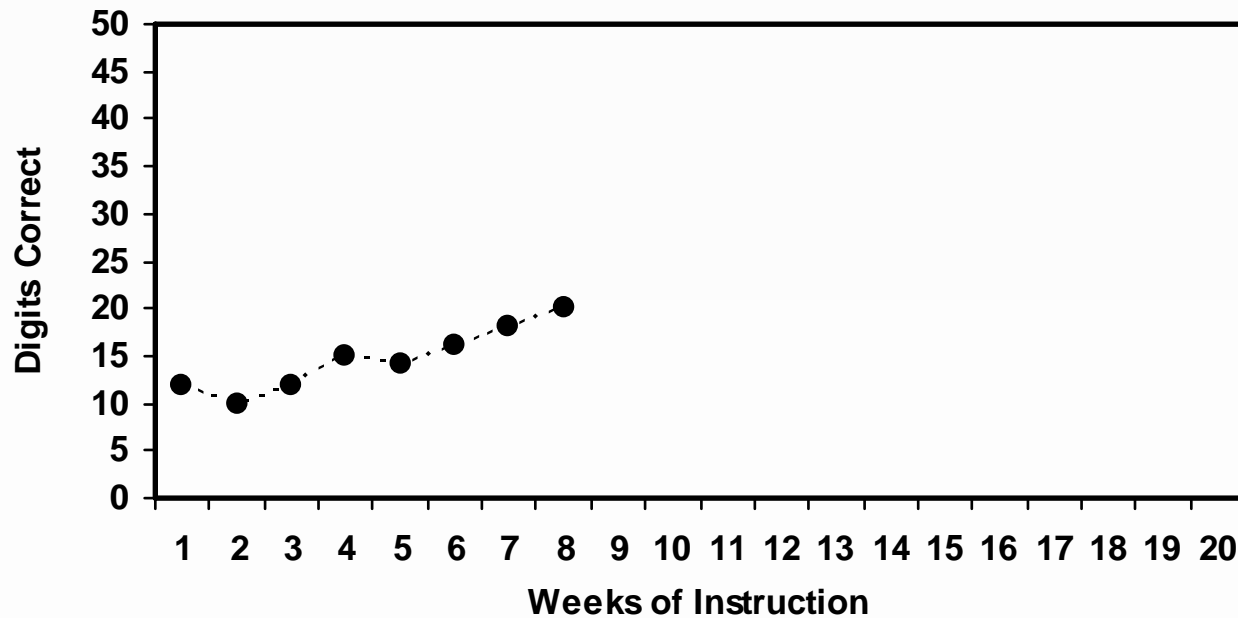


Tier 3-PM in Tertiary Prevention: Setting Goals With Intra-Individual Framework

- Setting IEP goals
 - Intra-individual framework
 - Identify weekly rate of improvement using at least eight data points
 - First eight scores slope = 0.625
 - Multiply slope by 1.5
 - $0.625 \times 1.5 = 0.9375$
 - Multiply by number of weeks until end of year
 - $0.9375 \times 14 = 13.125$
 - Add to student's baseline score
 - $13.125 + 4.625 = 17.75$
 - 17.75 (or 18) is student's end-of-year goal



Tier 3-PM in Tertiary Prevention: Setting Goals With Intra-Individual Framework



Tier 3-PM in Tertiary Prevention: Setting Goals With Intra-Individual Framework

1. Identify weekly rate of improvement (slope) using at least eight data points.

$$\text{slope} = (18 - 11) \div 7 = 1.0$$

2. Multiply slope by 1.5.

$$1.0 \times 1.5 = 1.5$$

3. Multiply (slope \times 1.5) by number of weeks until end of year.

$$1.5 \times 12 = 18$$

4. Add to student's baseline score. (The baseline is the average of Cecelia's first eight scores.)

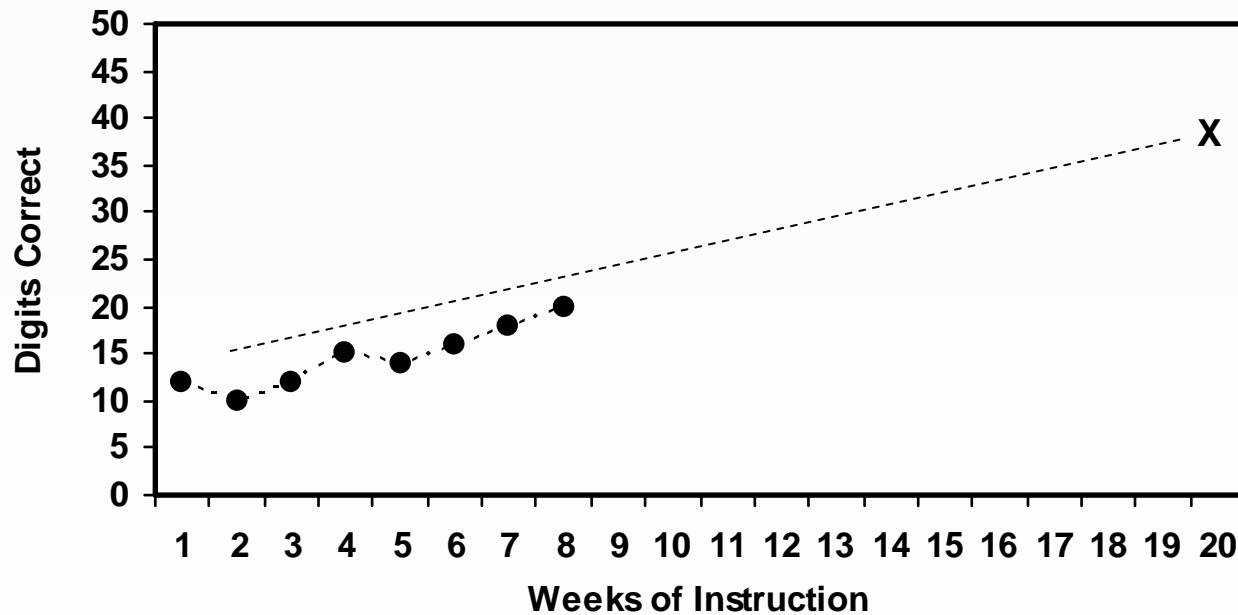
$$18 + 14.65 = 32.65$$

5. Mark goal (32.65) on student graph with an X.

6. Draw goal-line from baseline to X.



Tier 3-PM in Tertiary Prevention: Setting Goals With Intra-Individual Framework



Tier 3-PM in Tertiary Prevention: Setting Goals with National Norms for Weekly Improvement

- Setting IEP goals:
 - National norms for weekly rate of improvement (slope)

Grade	Reading— Slope	Computation CBM— Slope for Digits Correct	Concepts and Applications CBM— Slope for Points
1	1.8 (WIF)	.35	No data available
2	1.5 (PRF)	.30	.40
3	1.0 (PRF)	.30	.60
4	.40 (Maze)	.70	.70
5	.40 (Maze)	.70	.70
6	.40 (Maze)	.40	.70

Note: These figures may change pending additional RTI research.

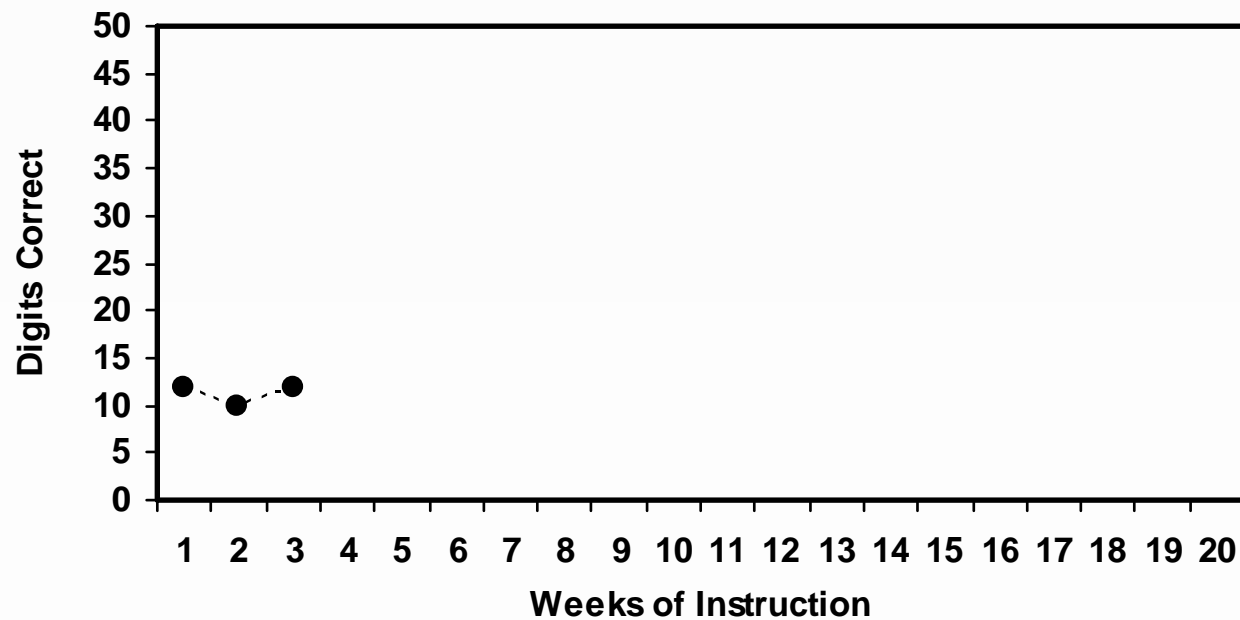


Tier 3-PM in Tertiary Prevention: Setting Goals With National Norms for Weekly Improvement

- Setting IEP goals:
 - National norms for weekly rate of improvement (slope)
 - First three scores average (baseline) = 14
 - Norm for fourth-grade computation = 0.70
 - Multiply norm by number of weeks left in year
 - $16 \times 0.70 = 11.2$
 - Add to baseline average
 - $11.2 + 14 = 25.2$
 - Student's end-of-year goal is 25.5 (or 26)



Tier 3-PM in Tertiary Prevention: Setting Goals With National Norms for Weekly Improvement



Tier 3-PM in Tertiary Prevention: Setting Goals With National Norms for Weekly Improvement

Grade	Reading—Slope	Computation CBM— Slope for Digits Correct	Concepts and Applications CBM —Slope for Points
K	No data available	---	---
1	1.8 (WIF)	0.35	No data available
2	1.5 (PRF)	0.30	0.40
3	1.0 (PRF)	0.30	0.60
4	0.40 (Maze)	0.70	0.70
5	0.40 (Maze)	0.70	0.70
6	0.40 (Maze)	0.40	0.70

Note: These figures may change pending additional RTI research.



Tier 3-PM in Tertiary Prevention: Setting Goals With National Norms for Weekly Improvement

1. Average the student's first three scores (baseline).

$$\text{Baseline} = (12 + 10 + 12) \div 3 = 11.33$$

2. Find the appropriate norm from the table.

$$0.30$$

3. Multiply norm by number of weeks left in year.

$$0.30 \times 17 = 5.1$$

4. Add to baseline.

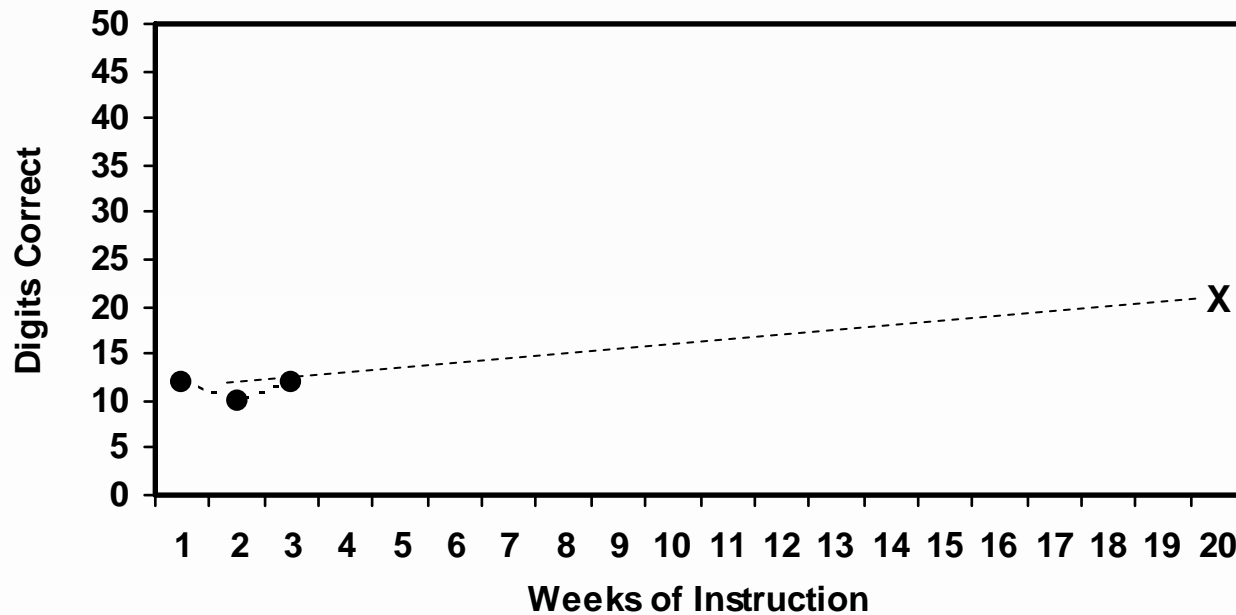
$$5.1 + 11.33 = 16.43$$

5. Mark goal (16.43) on student graph with an X.

6. Draw goal-line from baseline.



Tier 3-PM in Tertiary Prevention: Setting Goals With National Norms for Weekly Improvement

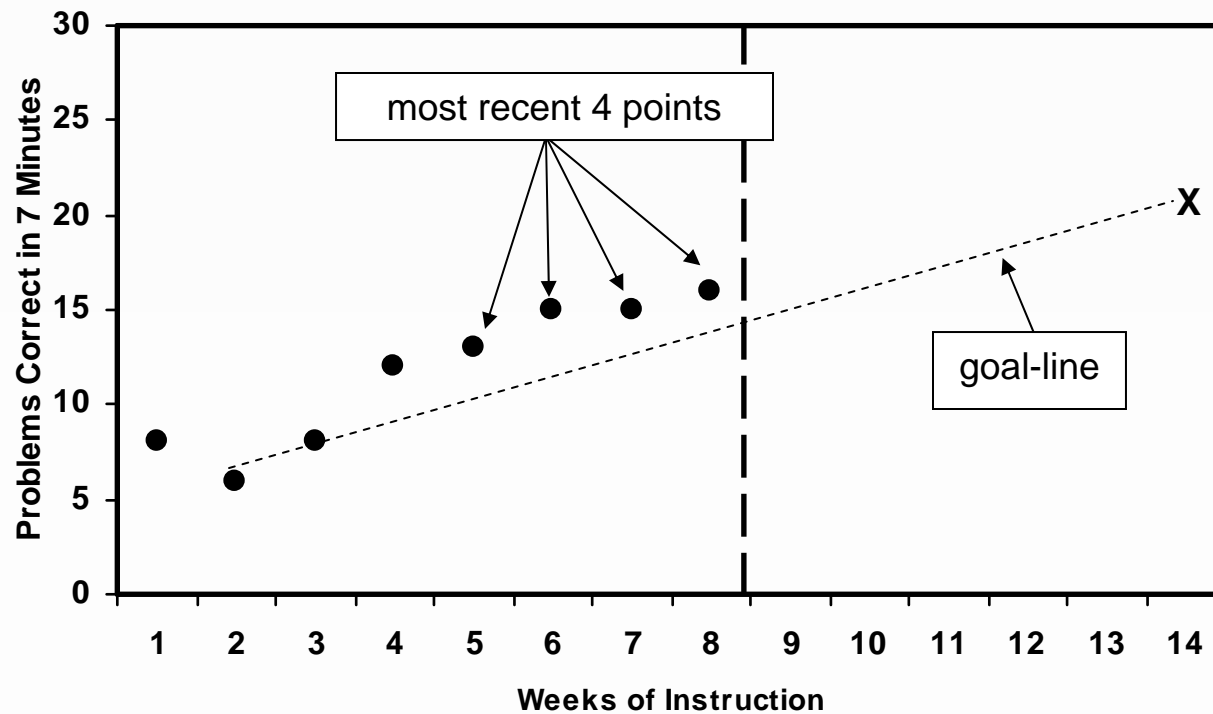


Tier 3-PM in Tertiary Prevention: Designing Individualized Programs

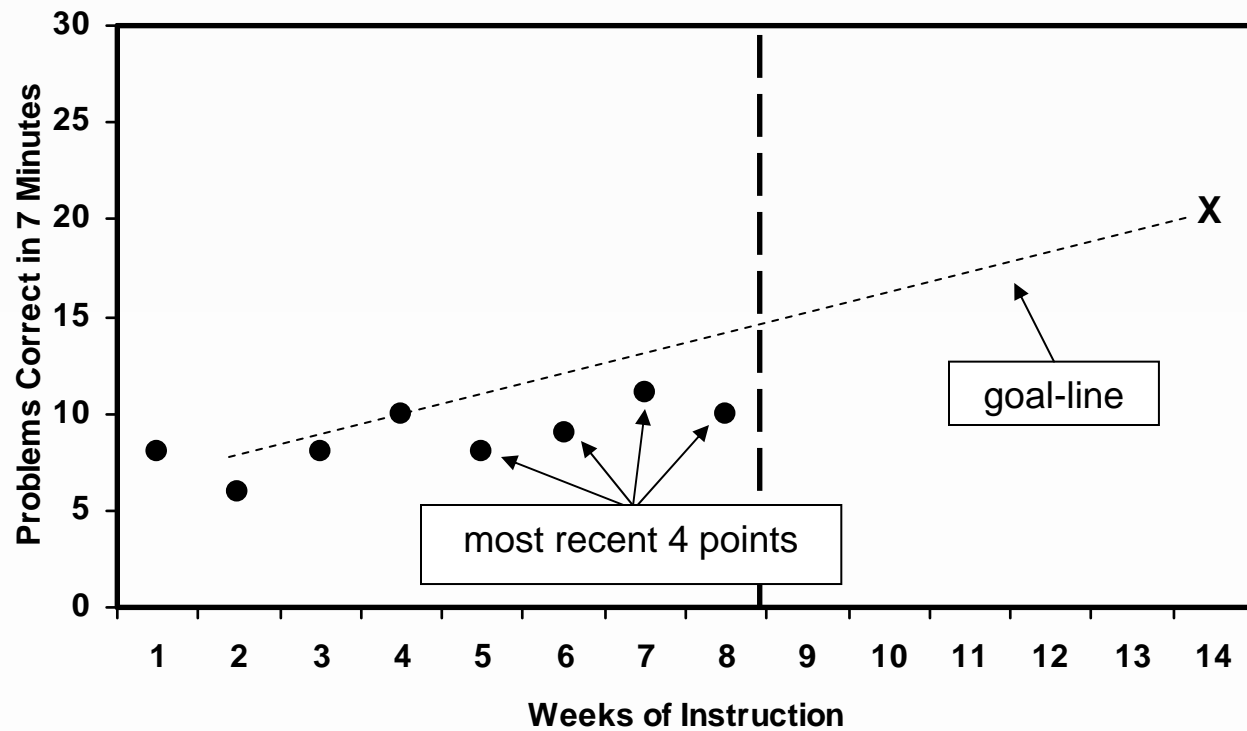
- Monitor adequacy of student progress and inductively design effective, individualized instructional programs
- Decision rules for graphs:
 - Based on four most recent consecutive scores
 - Based on student's trend-line



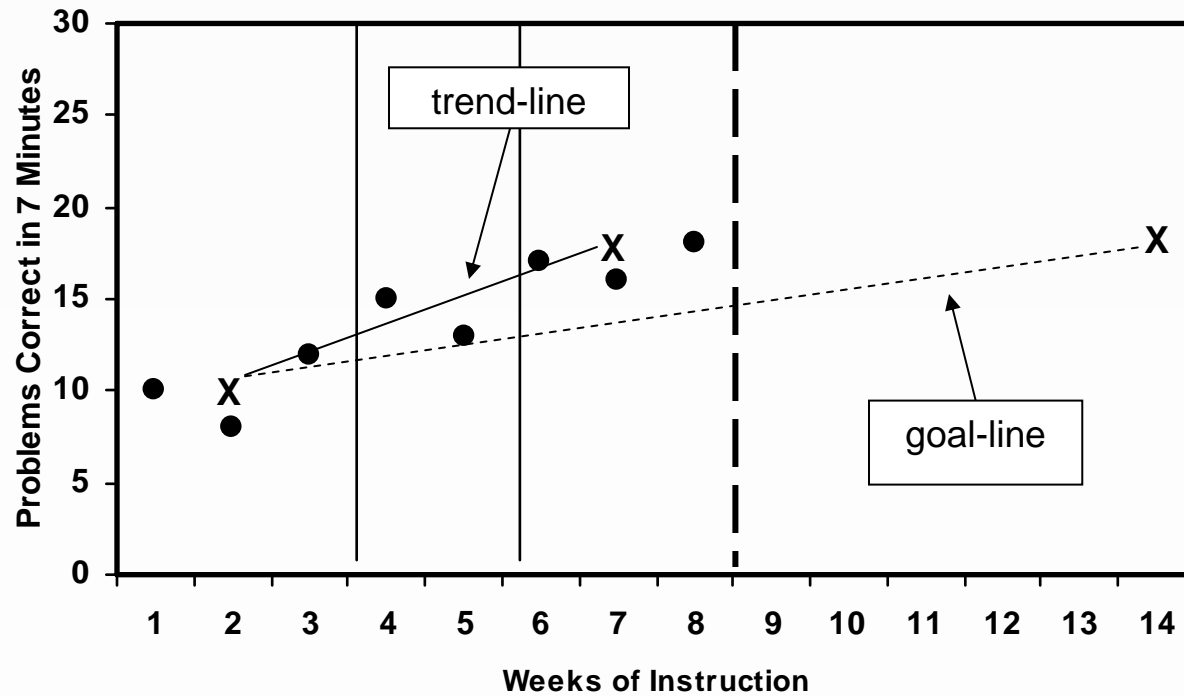
Tier 3-PM in Tertiary Prevention: Four-Point Method



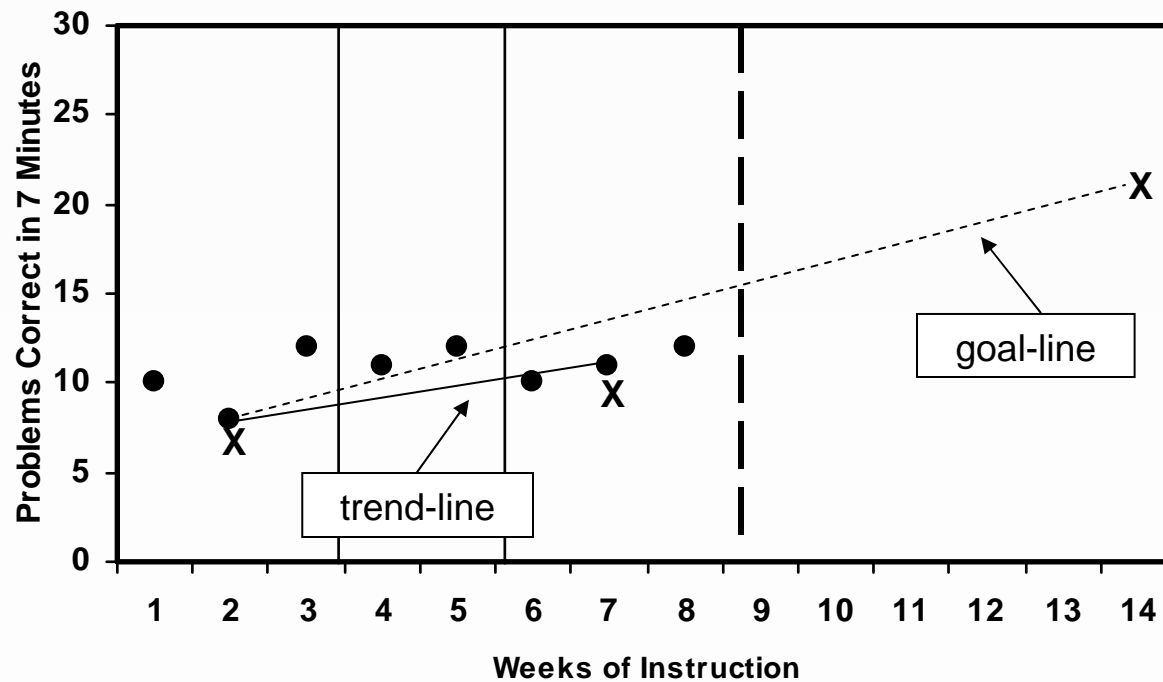
Tier 3-PM in Tertiary Prevention: Four-Point Method



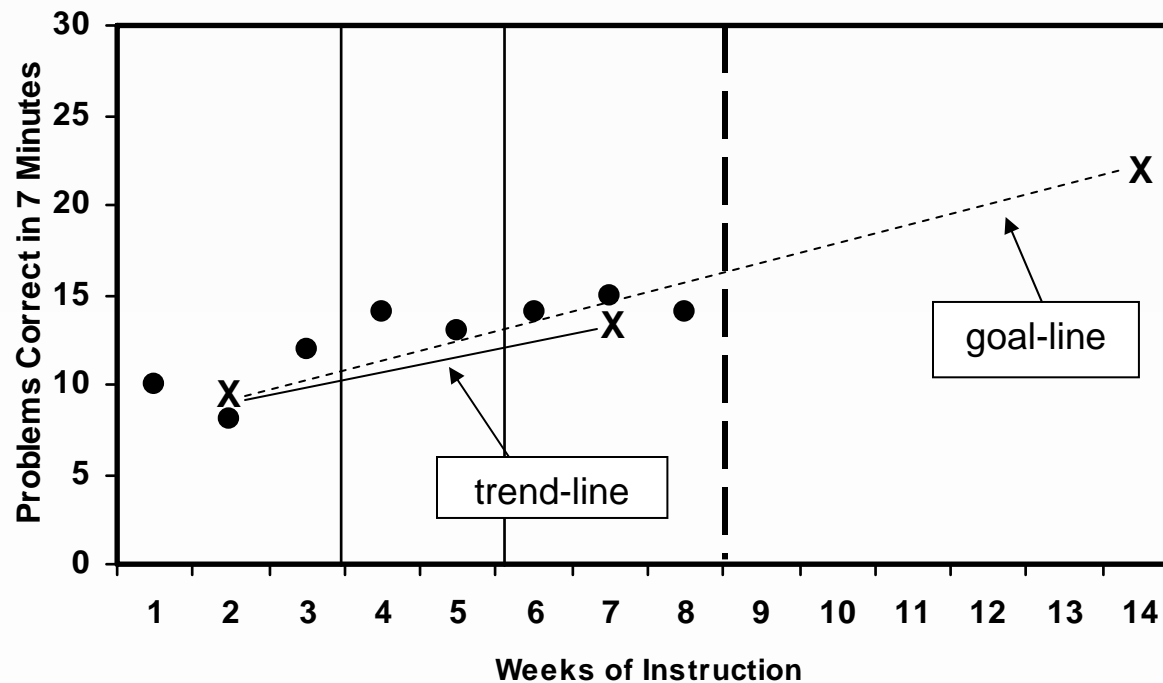
Tier 3-PM in Tertiary Prevention: Based on Trend



Tier 3-PM in Tertiary Prevention: Based on Trend



Tier 3-PM in Tertiary Prevention: Based on Trend



Tier 3-PM in Tertiary Prevention: Determining Response in Reading

Grade	CBM Probe	> Slope	>End Level
Kindergarten	Letter Sound Fluency	> 1	> 40
Grade 1	Word Identification Fluency	> 1.8	> 50
Grade 2	Passage Reading Fluency	> 1	> 60
Grade 3	Passage Reading Fluency	> 0.75	> 70
Grade 4	Maze Fluency	> 0.25	> 25
Grade 5	Maze Fluency	> 0.25	> 25
Grade 6	Maze Fluency	> 0.25	> 25

Note: These figures may change pending additional RTI research.



Tier 3-PM in Tertiary Prevention: Determining Response in Math

Grade	Computation		Concepts and Applications	
	> Slope	> End level	> Slope	> End level
Grade 1	> 0.50	> 20 digits	> 0.40	> 20 points
Grade 2	> 0.40	> 20 digits	> 0.40	> 20 points
Grade 3	> 0.40	> 20 digits	> 0.70	> 20 points
Grade 4	> 0.70	> 20 digits	> 0.70	> 20 points
Grade 5	> 0.70	> 20 digits	> 0.70	> 20 points
Grade 6	> 0.70	> 20 digits	> 0.70	> 20 points

Note: These figures may change pending additional RTI research.

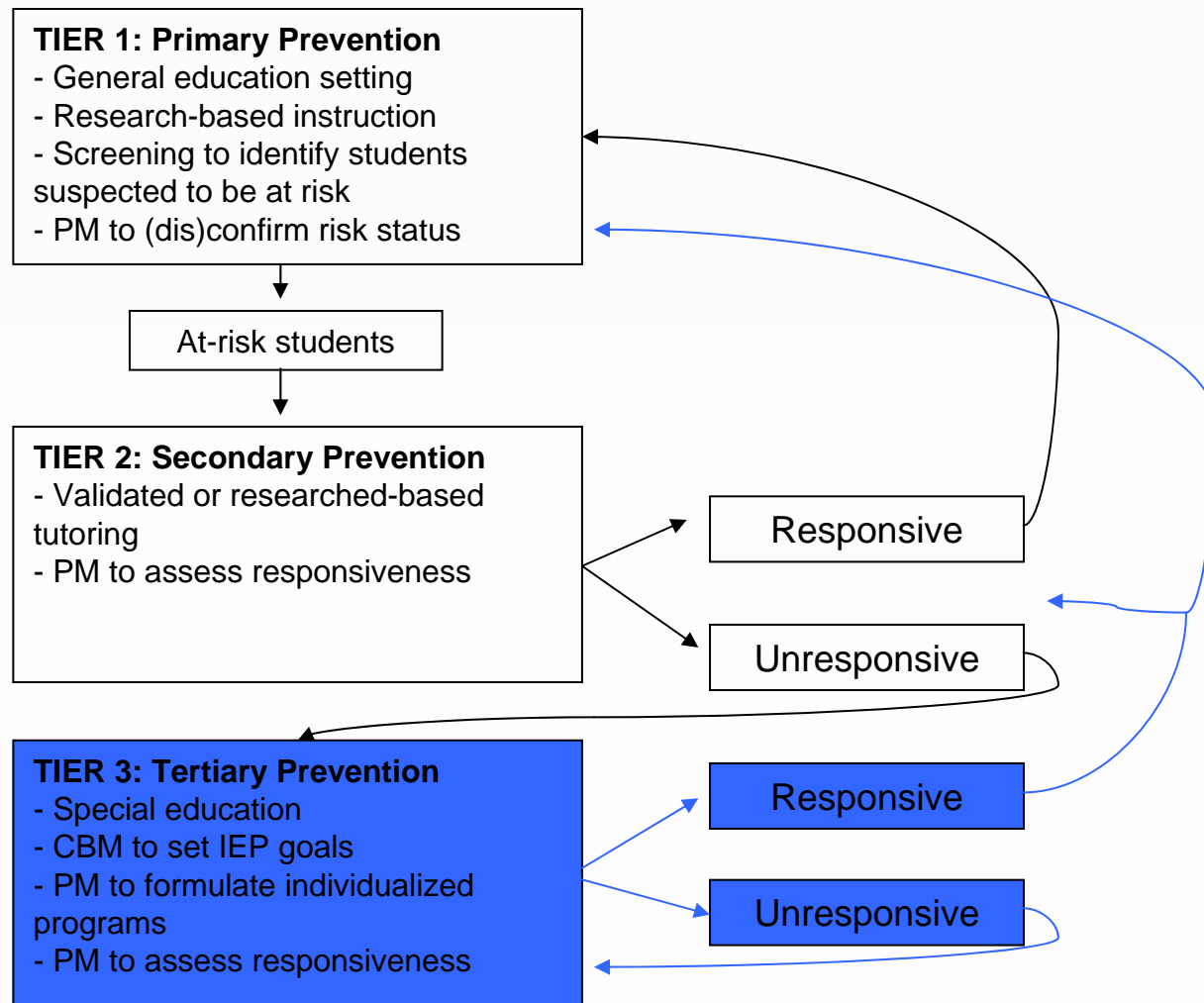


Tier 3-PM in Tertiary Prevention: Review

- Students receive special education services
 - IEP goals are set
 - Individualized programs are designed and implemented
- Student progress is monitored
 - Students with adequate slopes and projected end levels return to Tier 2 or Tier 1, with ongoing PM
 - Students with inadequate slopes and projected end levels remain in Tier 3, with ongoing PM



Three Tiers of RTI



Another Look: Health Care Analogy

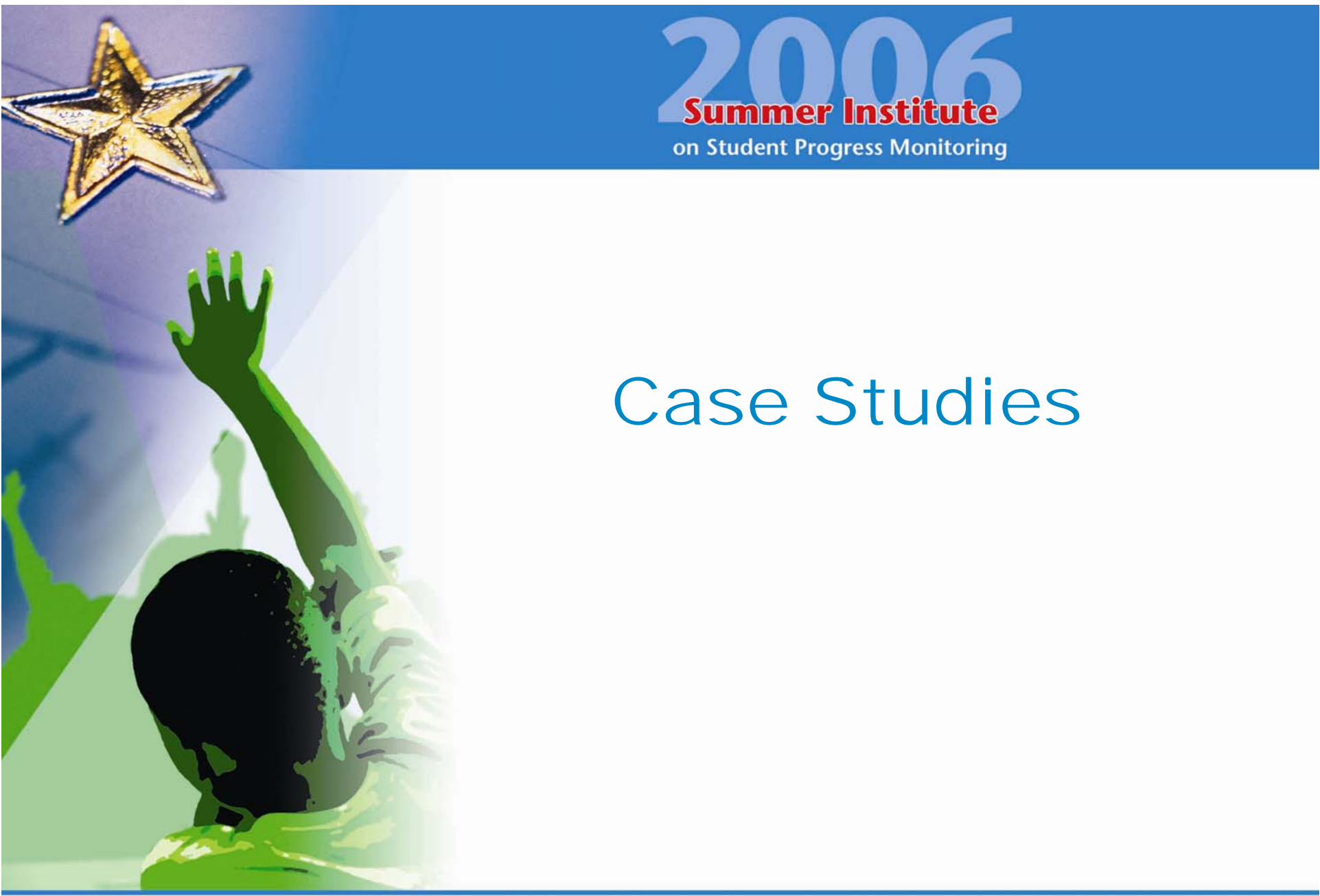
- High blood pressure (HBP) can lead to heart attacks or strokes (*like academic failure can produce serious long-term negative consequences*).
- At the annual check-up (primary prevention), HBP screening (*like annual fall screening for low reading or math scores*).
- If screening suggests HBP, monitoring over 6-8 weeks occurs to verify HBP (*like PM to ([dis]confirm risk)*).
- If HBP is verified, second prevention occurs with relatively inexpensive diuretics, which are effective for vast majority, and monitoring continues (*like small-group Tier 2 tutoring, using a standard treatment protocol, with PM to index response*).
- For patients who fail to respond to secondary prevention (diuretics), then tertiary prevention occurs - experimentation with more expensive medications (e.g., ACE inhibitors, beta blockers), with ongoing monitoring, to determine which drug or combination of drugs is effective (*like individualized instructional programs inductively formulate with progress monitoring*).



2006

Summer Institute
on Student Progress Monitoring

Case Studies



Case Study: Fenwick

- Three-tier model
- Every teacher uses strong research-based reading curriculum
 - Small percentage of students fail to achieve end-of-year CBM benchmarks



Case Study: Fenwick

- Tier 1 (Primary Prevention)
 - Universal screening for suspected at-risk students
 - CBM-WIF cut-off of 15
 - Suspected at-risk students monitored using CBM for 6 weeks
 - Students with CBM-WIF slope of 1.8-word increase per week are responsive to Tier 1
 - Students with CBM-WIF slope below 1.8-word increase per week are unresponsive to Tier 1



Case Study: Fenwick

- Tier 2 (Secondary Prevention)

- Standard tutoring protocol:

- 45 minutes / four times a week / 15 weeks
- Trained tutors

- Tutoring focus:

- Phonological awareness
- Letter sound recognition
- Sight word recognition
- Short story reading



Case Study: Fenwick

- Tier 2 (Secondary Prevention)
 - Weekly progress monitoring
 - Students with CBM-WIF slope of 1.8-word increase per week are responsive to Tier 2
 - Students with CBM-WIF slope below 1.8-word increase per week are unresponsive to Tier 2
 - Unresponsive Tier 2 students receive a comprehensive evaluation and may be designated as having a disability



Case Study: Fenwick

- Tier 2 (Secondary Prevention)
 - Comprehensive evaluation
 - Answer specific questions from primary and secondary prevention
 - Make distinctions among disabilities
 - Wechsler and Vineland measures—LD and MR
 - Language measures—LD and language impairments
 - Rating scales, observations, interviews—LD and EBD



Case Study: Fenwick

- Tier 3 (Tertiary Prevention)
 - IEP goals
 - Formative decision making to design individually-tailored programs
 - Progress monitoring weekly
 - Change ineffective instructional programs
 - Make decisions about student exit and re-enter special education



Case Study: Fenwick

- Key Distinctions Between Tier 2 and Tier 3:
 - Tier 3 special educators have lower student–teacher ratios (1:1 or 1:2)
 - Tier 3 provides more instructional time
 - Tier 3 uses progress monitoring to formulate individually tailored programs



Case Study at Fenwick: Dewey

- Dewey suspected at risk
 - CBM-WIF score of 5.5 (below 15 cut-off)
- Primary prevention performance monitored for 6 weeks
 - CBM-WIF slope 0.4 (below 1.8 cut-off)
- Dewey was unresponsive to primary prevention
- Dewey moves to secondary prevention

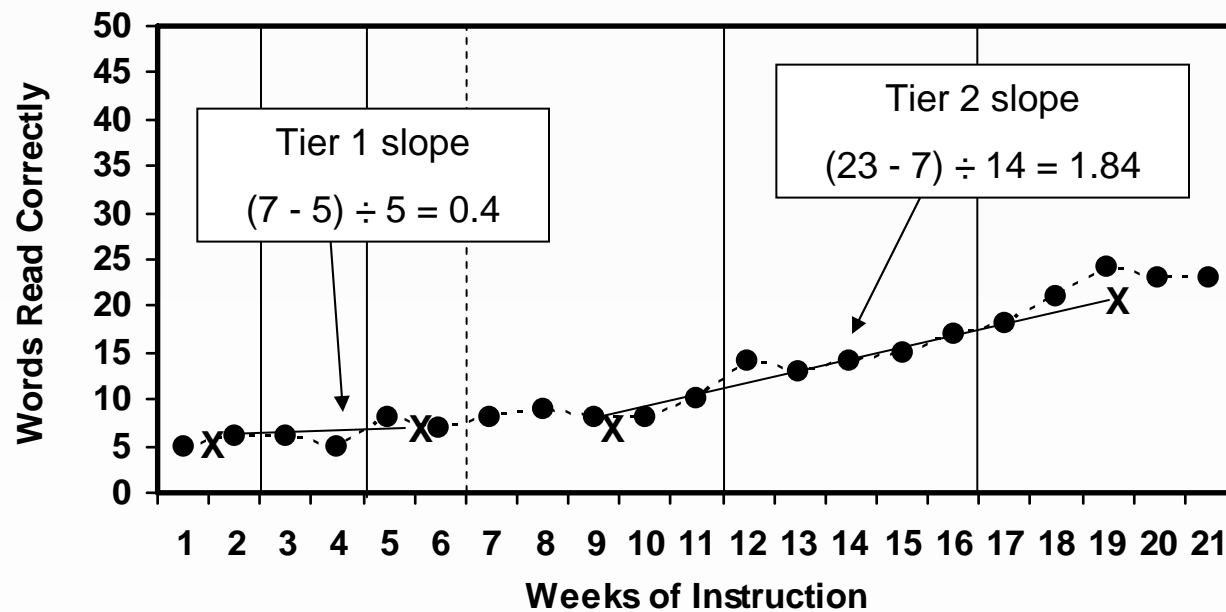


Case Study at Fenwick: Dewey

- Dewey in secondary prevention tutoring
 - 45 minutes / four times a week / 15 weeks
- Progress monitored weekly
 - After 15 weeks, slope was 1.84
 - 1.84 exceeds the 1.8 cut-off for positive responsiveness-to-intervention



Case Study at Fenwick: Dewey



Case Study at Fenwick: Dolphina

- Dolphina suspected at risk
 - CBM-WIF score of 7.5 (below 15 cut-off)
- Primary prevention performance monitored for 6 weeks
 - CBM-WIF slope 0.2 (below 1.8 cut-off)
- Dolphina was unresponsive to primary prevention
- Dolphina moves to secondary prevention

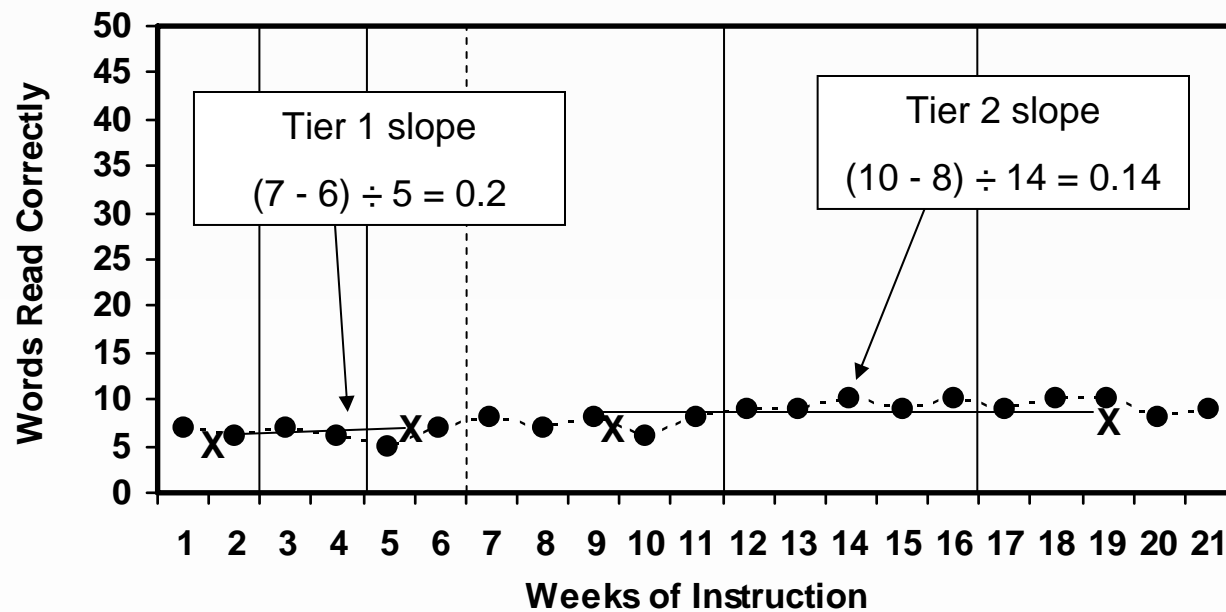


Case Study at Fenwick: Dolphina

- Dolphina in secondary prevention tutoring
 - 45 minutes / four times a week / 15 weeks
- Progress monitored weekly
 - After 15 weeks, slope was 0.14
 - 0.14 below the 1.8 cut-off for positive responsiveness-to-intervention
 - Moves to tertiary prevention



Case Study at Fenwick: Dolphina



Case Study at Fenwick: Dolphina

- Comprehensive Evaluation
 - Interview of primary prevention teacher and secondary prevention tutor
 - Administration of Vineland Adaptive Rating Scale and Wechsler Abbreviated Scale of Intelligence
 - Ruled out mental retardation



Case Study Fenwick: Dolphina

- Comprehensive Evaluation
 - Administered expressive and pragmatic language measures
 - Ruled out language impairment
 - Gathered rating scales, classroom observations, and parent interviews
 - Ruled out emotional behavioral disorder



Case Study at Fenwick: Dolphina

- Dolphina in Tertiary Prevention
 - Classified as LD
 - IEP goals set
 - Individualized program established
 - One-on-one instruction 1 hour each day
 - Another half-hour small-group tutoring session each day with one other student

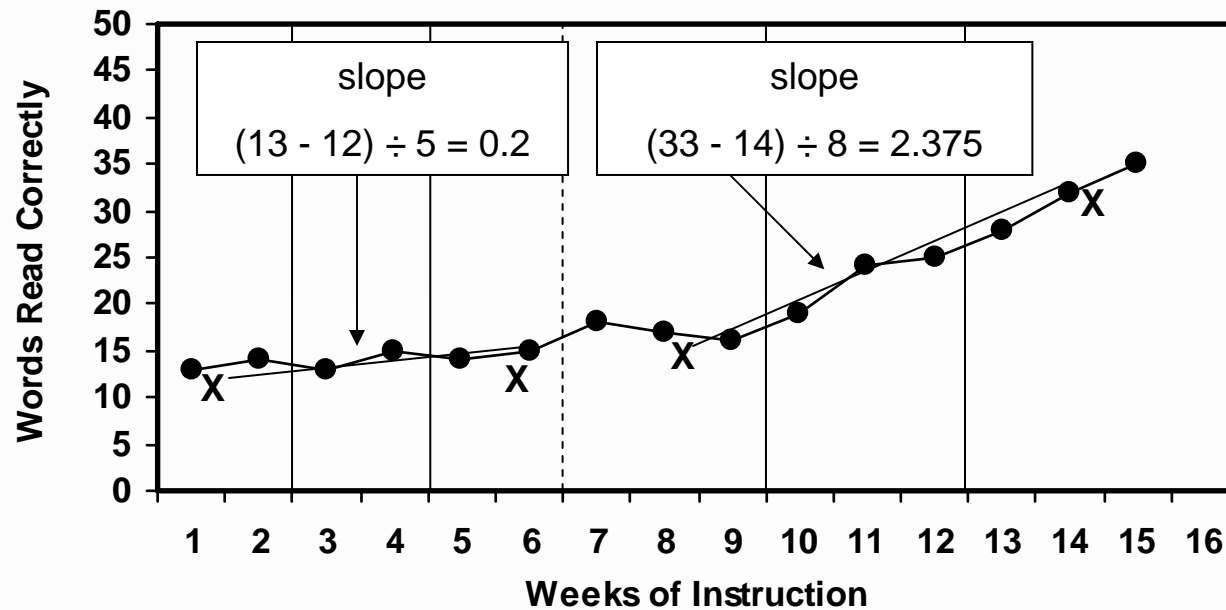


Case Study at Fenwick: Dolphina

- Dolphina in Tertiary Prevention
 - Progress monitored twice weekly
 - Goal of 1.5 words of improvement / week
 - After 6 weeks, Dolphina's slope of 0.2 was below goal
 - Program change was initiated
 - After a few months, Dolphina's slope of 2.375 exceeded goal.
 - Goal was increased.



Case Study at Fenwick: Dolphina



Case Study: Bear Lake

- Three-tier model
- Every teacher uses strong research-based math program
 - Small percentage (5%) of students fail to achieve end-of-year CBM computation benchmarks



Case Study: Bear Lake

- Tier 1 (Primary Prevention)
 - Universal screening for suspected at-risk students
 - CBM computation cut-off of 10 for second-grade students

Student	CBM Score	Student	CBM Score
Marcie	13	Cheyenne	13
Anthony	12	Marianne	18
Deterrious	15	Kevin	19
Amy	18	Dax	13
Matthew	11	Ethan	6
Calliope	16	Colleen	21
Noah	25	Grace	14
Nina	8	Cyrus	20



Case Study: Bear Lake

- Tier 1 (primary prevention)
- PM for 7 weeks
 - Students with CBM computation slope of 0.20 are responsive to Tier 1
 - Students with CBM computation slope below 0.20 are unresponsive to Tier 1

Student	CBM Score	Student	CBM Score
Marcie	13	Cheyenne	13
Anthony	12	Marianne	18
Deterrious	15	Kevin	19
Amy	18	Dax	13
Matthew	11	Ethan	6
Calliope	16	Colleen	21
Noah	25	Grace	14
Nina	8	Cyrus	20



Case Study: Bear Lake

- Tier 1 (Primary Prevention)
 - Students responsive to Tier 1 (slope greater than 0.20) remain in general education
 - Students unresponsive to Tier 1 (slope less than 0.20) move to Tier 2 secondary prevention tutoring



Case Study: Bear Lake

- Tier 2 (Secondary Prevention)
 - Standard tutoring protocol:
 - 30 minutes / three times a week / 16 weeks
 - Trained tutors
 - Tutoring focus:
 - Number concepts
 - Basic math facts
 - Addition and subtraction of two-digit numbers
 - Word-problem solving
 - Missing addends



Case Study: Bear Lake

- Tier 2 (Secondary Prevention)
 - Progress monitoring weekly
 - Students with CBM computation slope or end level above cut-off are responsive to Tier 2
 - Students with CBM computation slope or end level below cut-off are unresponsive to Tier 2
 - Unresponsive Tier 2 students receive a comprehensive evaluation and may be designated as having a disability



Case Study: Bear Lake

- Tier 2 (Secondary Prevention)
 - Comprehensive evaluation
 - Answer specific questions from primary and secondary prevention
 - Make distinctions among disabilities
 - Wechsler and Vineland measures—LD and MR
 - Language measures—LD and language impairments
 - Rating scales, observations, interviews—LD and EBD



Case Study: Bear Lake

- Tier 3 (Tertiary Prevention)
 - IEP goals
 - Weekly Progress monitoring
 - Change ineffective instructional programs
 - Make decisions about which students exit special education

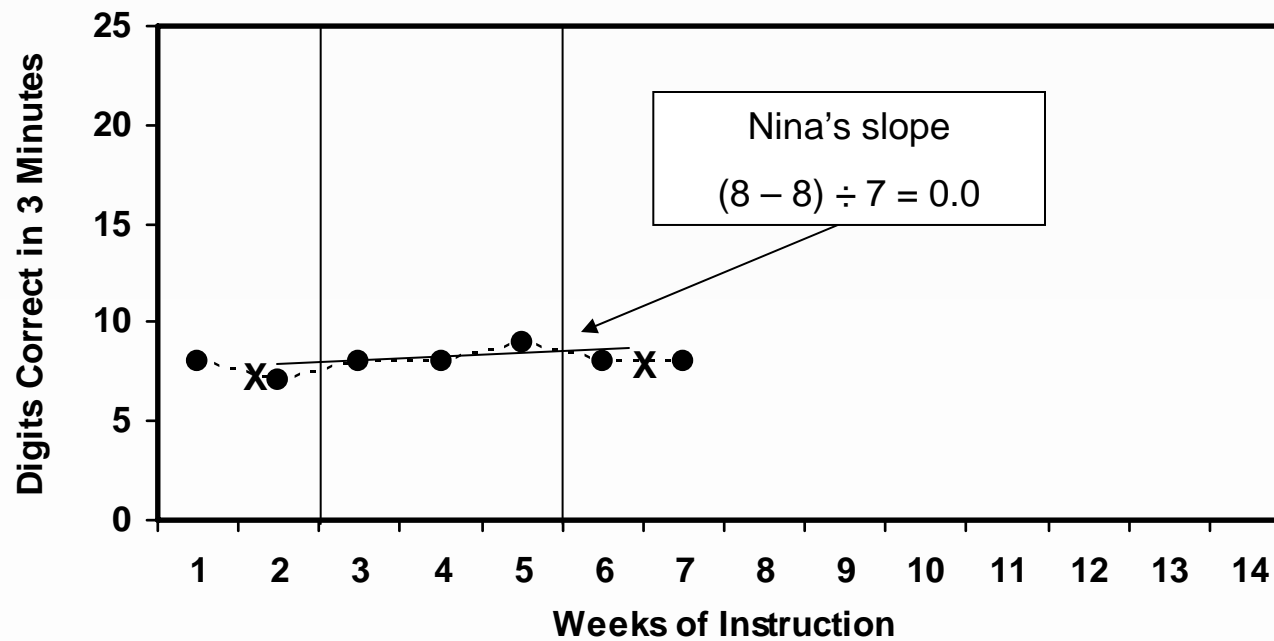


Case Study at Bear Lake: Nina

- Nina suspected at risk
 - CBM computation score of 8 (below 10 cut-off)
- Primary prevention performance monitored for 7 weeks



Case Study at Bear Lake: Nina



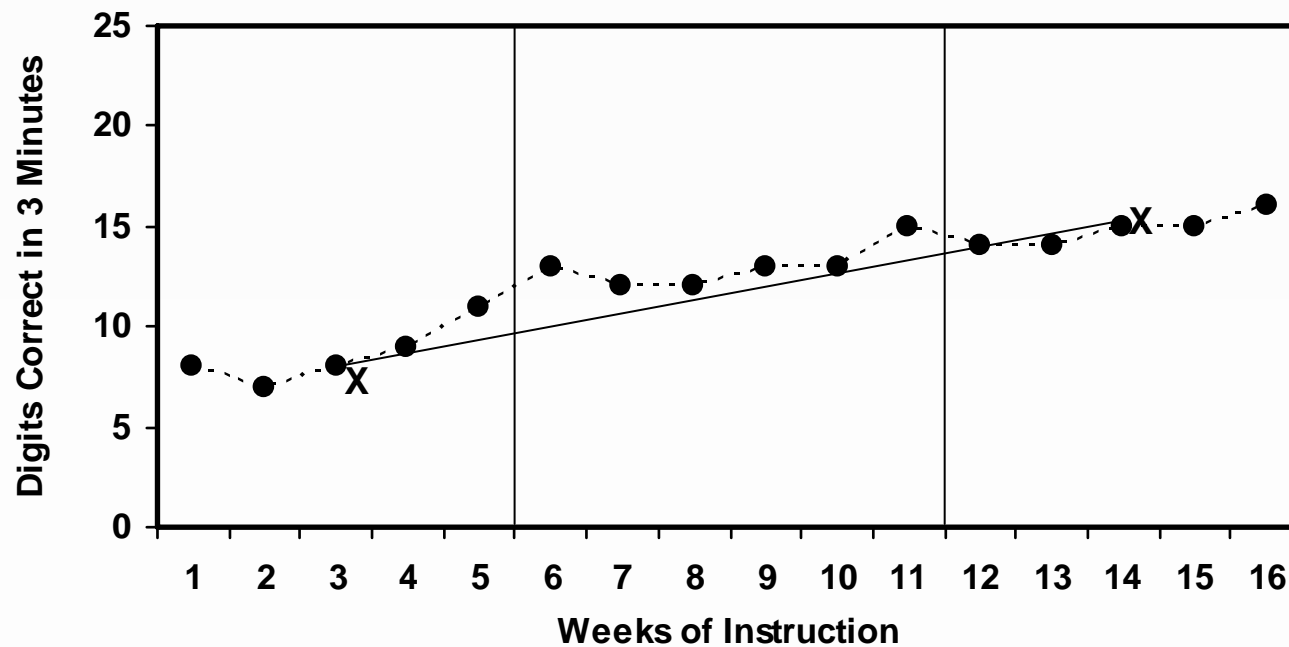
Case Study at Bear Lake: Nina

Grade	Inadequate Reading Slope	Inadequate Math Computation Slope	Inadequate Math Concepts and Applications Slope
Kindergarten	< 1 (LSF)	< 0.20	< 0.20
Grade 1	< 1.8 (WIF)	< 0.25	< 0.30
Grade 2	< 1 (PRF)	< 0.20	< 0.30
Grade 3	< 0.75 (PRF)	< 0.20	< 0.50
Grade 4	< 0.25 (Maze)	< 0.50	< 0.50
Grade 5	< 0.25 (Maze)	< 0.50	< 0.50
Grade 6	< 0.25 (Maze)	< 0.50	< 0.50

Note: These figures may change pending additional RTI research.



Case Study at Bear Lake: Nina



Case Study at Bear Lake: Ethan

- Ethan suspected at risk
 - CBM computation score of 6 (below 10 cut-off)
- Primary prevention performance monitored for 7 weeks
 - CBM computation slope of 0.14 (below 0.20 cut-off)
- Ethan is unresponsive to primary prevention
- Ethan moves to secondary prevention tutoring

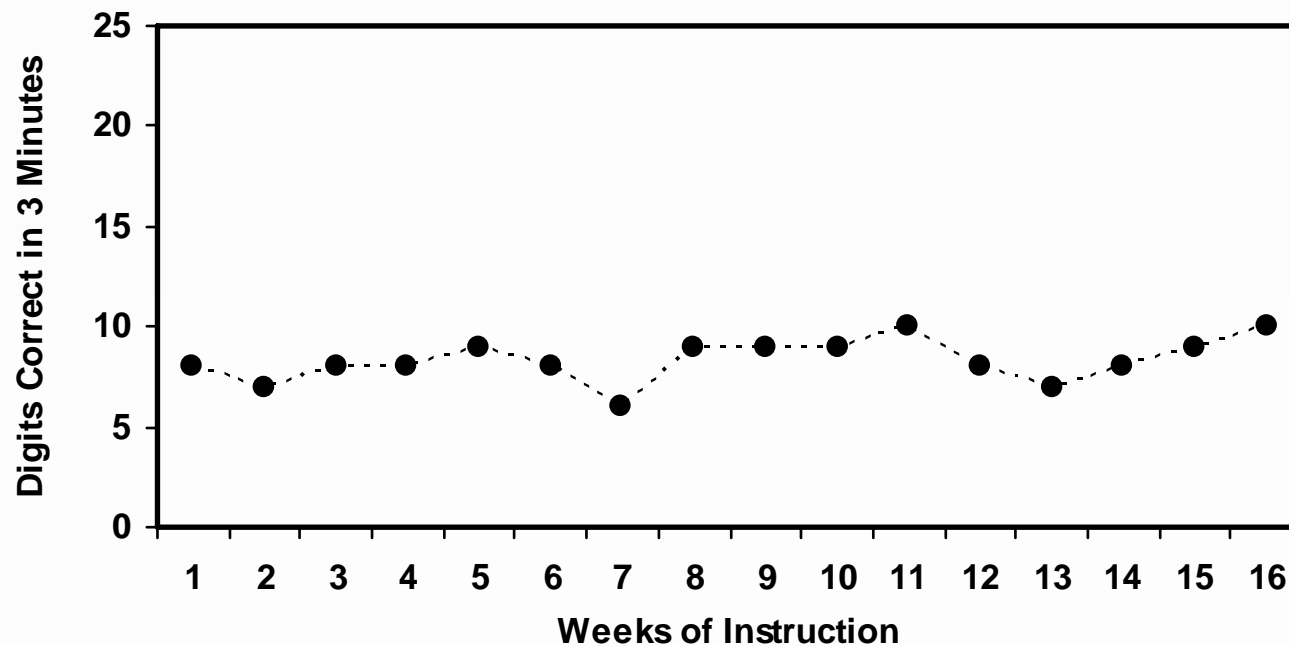


Case Study at Bear Lake: Ethan

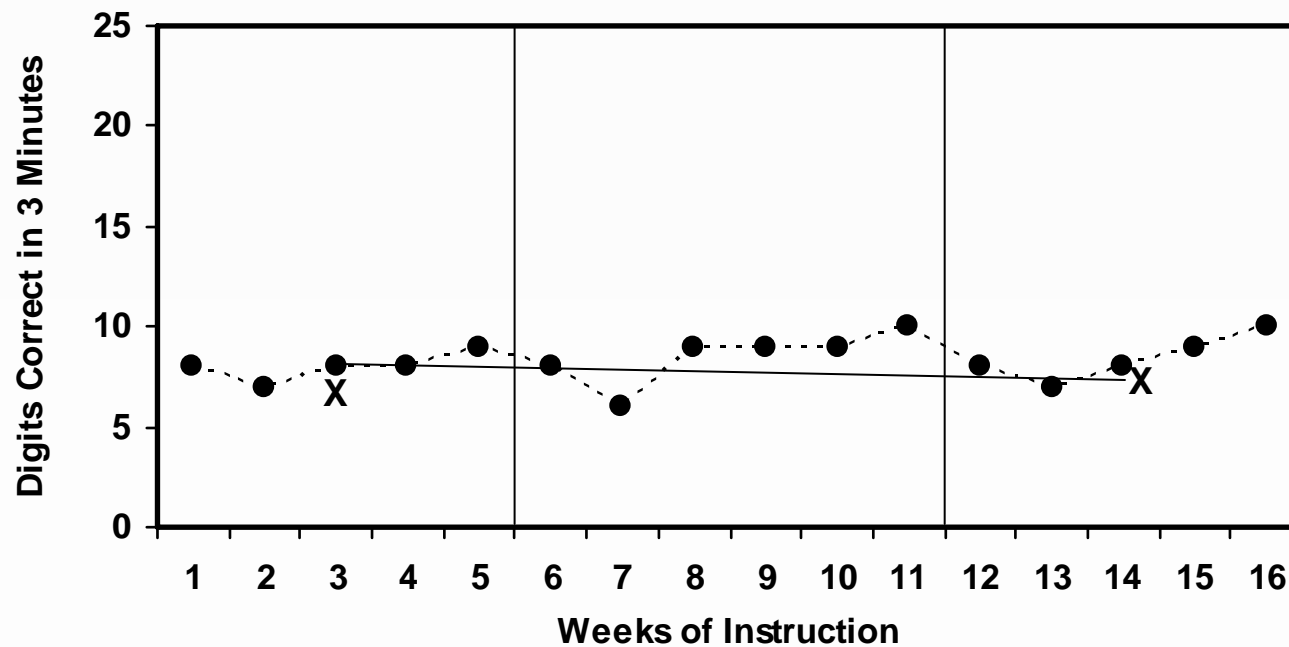
- Ethan in Secondary Prevention Tutoring
 - 30 minutes
 - Three times a week
 - 16 weeks
 - CBM computation administered once each week



Case Study at Bear Lake: Ethan



Case Study at Bear Lake: Ethan



Case Study at Bear Lake: Ethan

- Comprehensive Evaluation
 - Interview of primary prevention teacher and secondary prevention tutor
 - Vineland Adaptive Rating Scale and Wechsler Abbreviated Scale of Intelligence
 - Ruled out mental retardation
 - Expressive and pragmatic language measures
 - Ruled out language impairment
 - Rating scales, classroom observations, and parent interviews
 - Ruled out emotional behavioral disorder

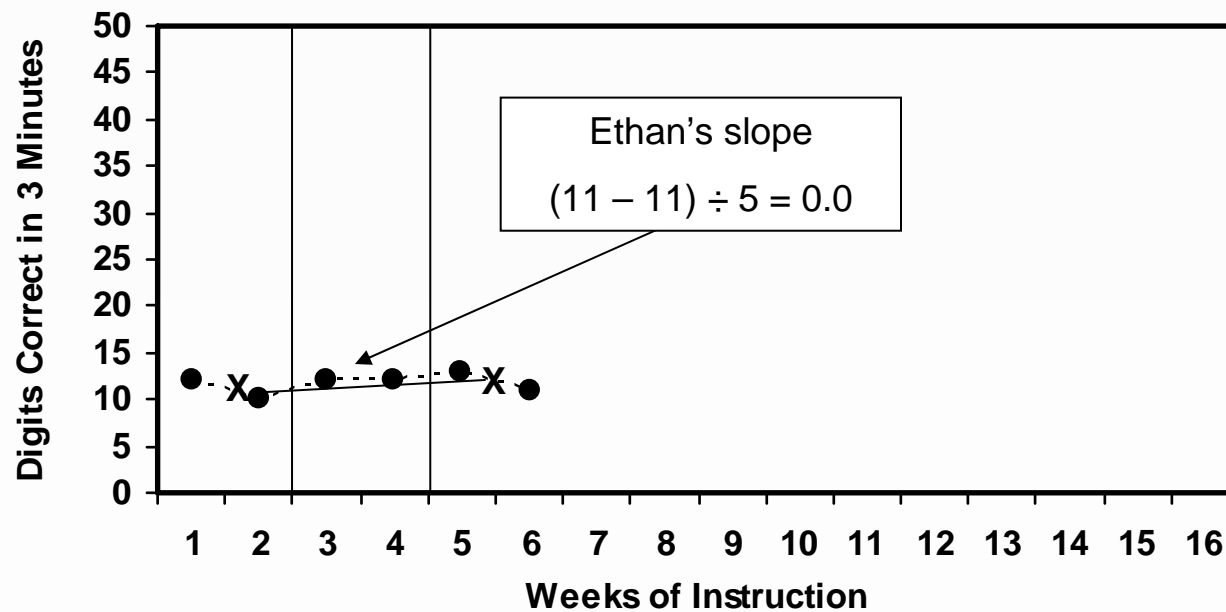


Case Study at Bear Lake: Ethan

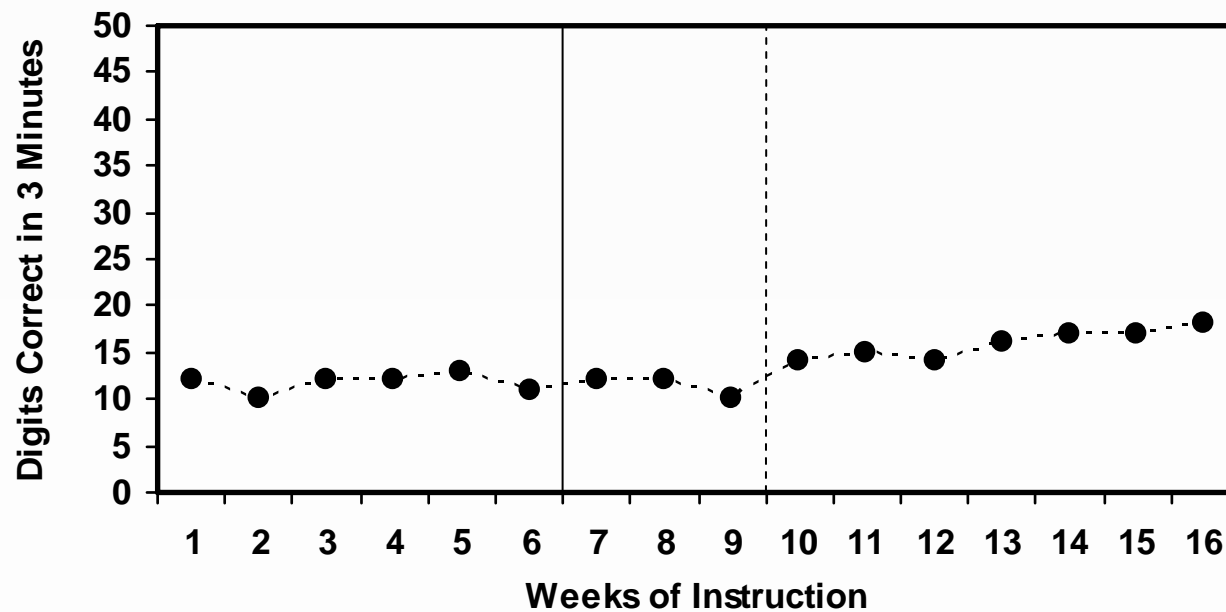
- Ethan in Tertiary Prevention
 - Classified as LD
 - IEP goals set
 - Individualized program established
 - Progress monitoring
 - One-digit improvement per week



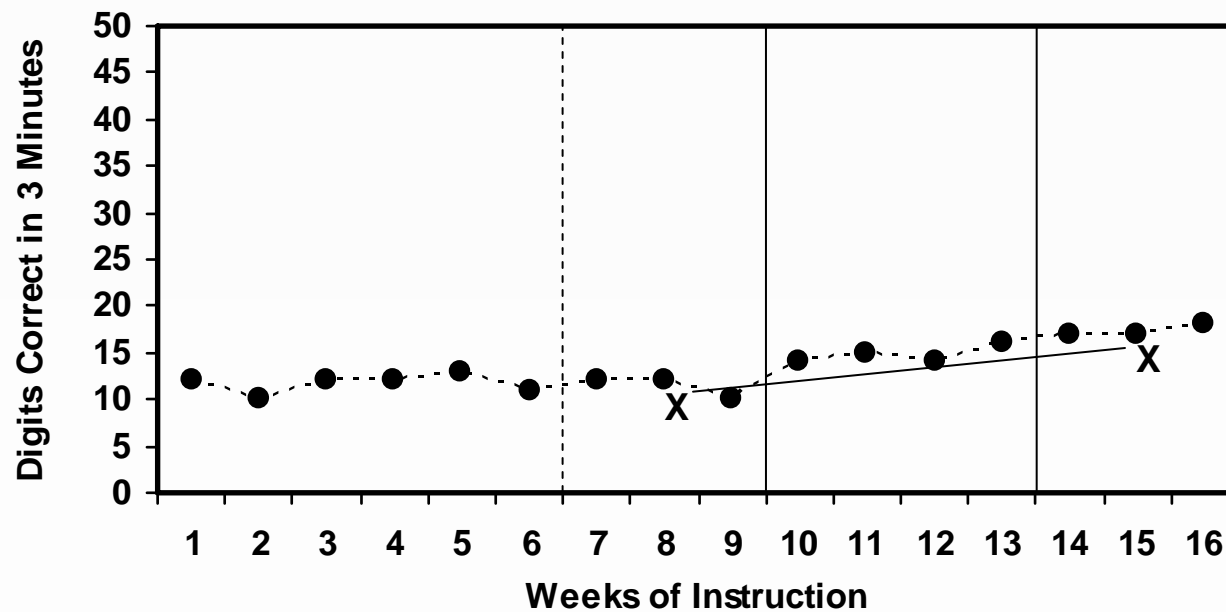
Case Study at Bear Lake: Ethan



Case Study at Bear Lake: Ethan



Case Study at Bear Lake: Ethan



Frequently Asked Questions

- Will the RTI process delay identification?
 - Takes longer than 1-step comprehensive evaluation.
 - But, RTI enables students to receive services before identification so that learning problems can be addressed in Tier 2.
 - RTI helps many students get on a trajectory toward successful academic outcomes.
 - RTI facilitates early prevention and identification.



Frequently Asked Questions

- Does each student have to go through RTI, or can a student have a traditional assessment?
 - Schools should honor parent requests
 - Provide traditional 1-step comprehensive evaluation if parent requests



Frequently Asked Questions

- What does validated intervention mean?
 - Validated intervention is a set of practices that have proven efficacious using controlled studies.
- What does research-based intervention mean?
 - Research-based intervention incorporates instructional principles that have proven efficacious using controlled studies.



Frequently Asked Questions

- Who initiates the RTI process?
 - Students identified through universal screening
 - Universal screening is supplemented with PM to determine student response to primary prevention



Frequently Asked Questions

- What will be required for professional development?
 - Staff need to learn to:
 - Collect and interpret screening scores.
 - Ensure quality of primary prevention.
 - Collect and interpret on-going PM data.
 - Design Tier 2 programs with validated interventions.
 - Implement Tier 2 programs with fidelity.
 - Reform special education to improve its quality as a third tier of intervention.



Frequently Asked Questions

- Who is responsible for the various activities required to implement RTI as a method of LD identification?
 - Collecting screening data: teachers and aides
 - Interpreting screening data: special educators and school psychologists
 - Ensuring quality of general education: curriculum specialists, school psychologists, reading specialists
 - Ensuring quality of Tier 2: curriculum specialists, school psychologists, reading specialists
 - Conducting the comprehensive evaluation: school psychologists, special educators
 - Ensuring quality of Tier 3: special educators



Frequently Asked Questions

- What proportion of students is likely to be identified as at risk for Tier 1 monitoring and for Tier 2 tutoring?
 - General education, questionable quality
 - 20–25%
 - General education, high quality
 - 9–10%
 - Tier 2, high quality
 - 3-5%
 - Tier 3, high quality
 - 1-2%



Frequently Asked Questions

- How long will the comprehensive evaluation be, and what professional is likely to give the assessment?
 - Small number of brief tests
 - Special educator or school psychologist



Frequently Asked Questions

- Are there schools currently implementing RTI as a method of LD identification and, if so, how can I learn more about their methods?
 - To obtain a list of model sites, contact Daryl Mellard
 - dmellard@ku.edu



Curriculum-Based Measurement PM Materials

- AIMSweb/Edformation
- Dynamic Indicators of Basic Early Literacy Skills (DIBELS)/Sopris West
- EdCheckup
- Monitoring Basic Skills Progress/Pro-Ed, Inc.
- STAR/Renaissance Learning
- Test of Silent Word Reading Fluency/Pro-Ed., Inc.
- Test of Word Reading Efficiency/Pro-Ed., Inc.
- Yearly ProgressPro™/McGraw-Hill
- Research Institute on Progress Monitoring, University of Minnesota
- Vanderbilt University



RTI Resources

- Appendix B of your materials packet
- Appendix B of NCPM PM manuals

