Multi-Tiered System of Support (MTSS): Building an Effective Progress Monitoring System

Tessie Rose Bailey, PhD

Learning Objectives:
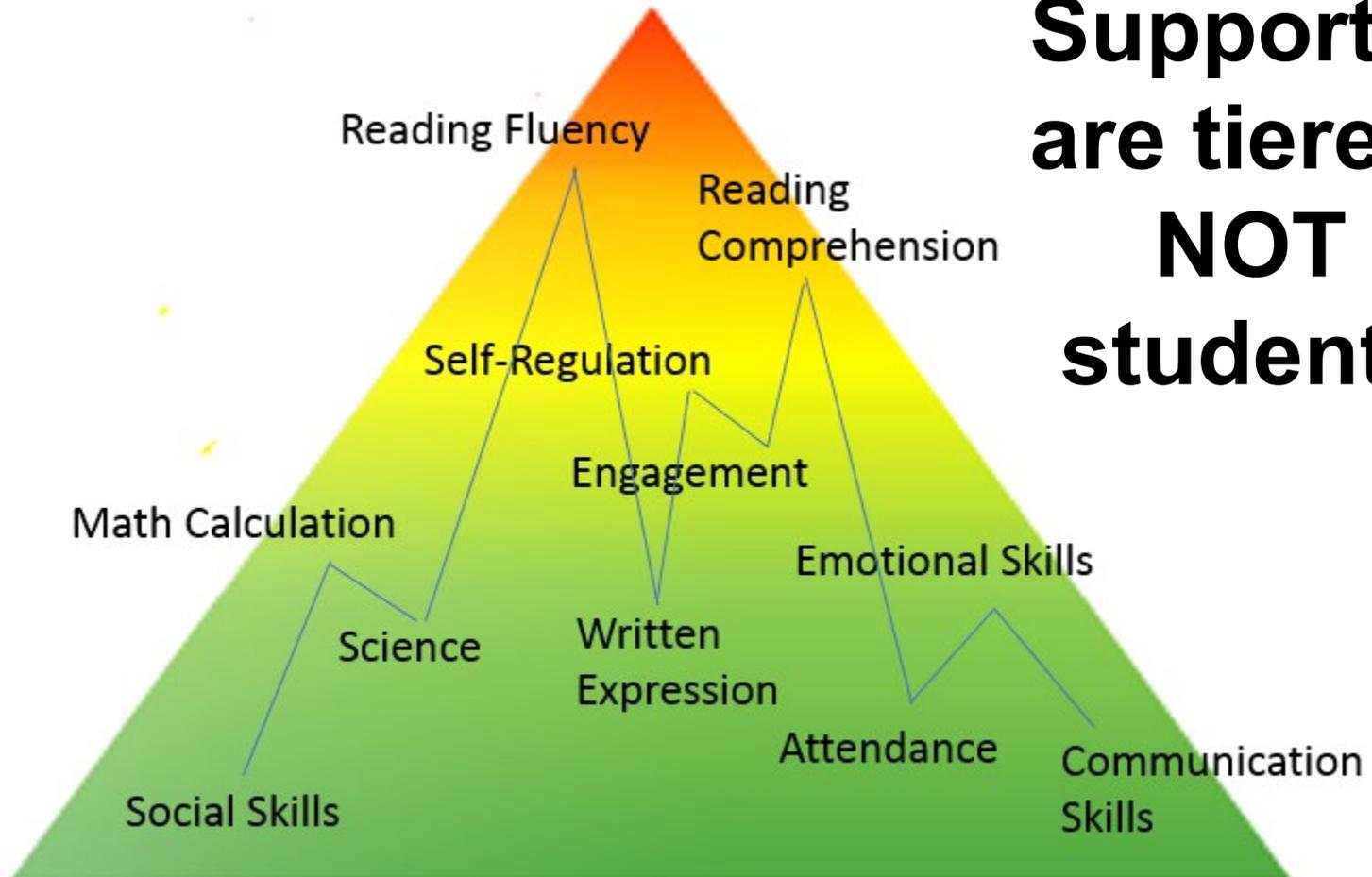
By the end of this session, participants will…

- Select or design valid progress monitoring tools

- Describe the three DBI goals setting strategies

- Identify the key components of a progress monitoring plan

- Describe approaches to analyzing progress monitoring data
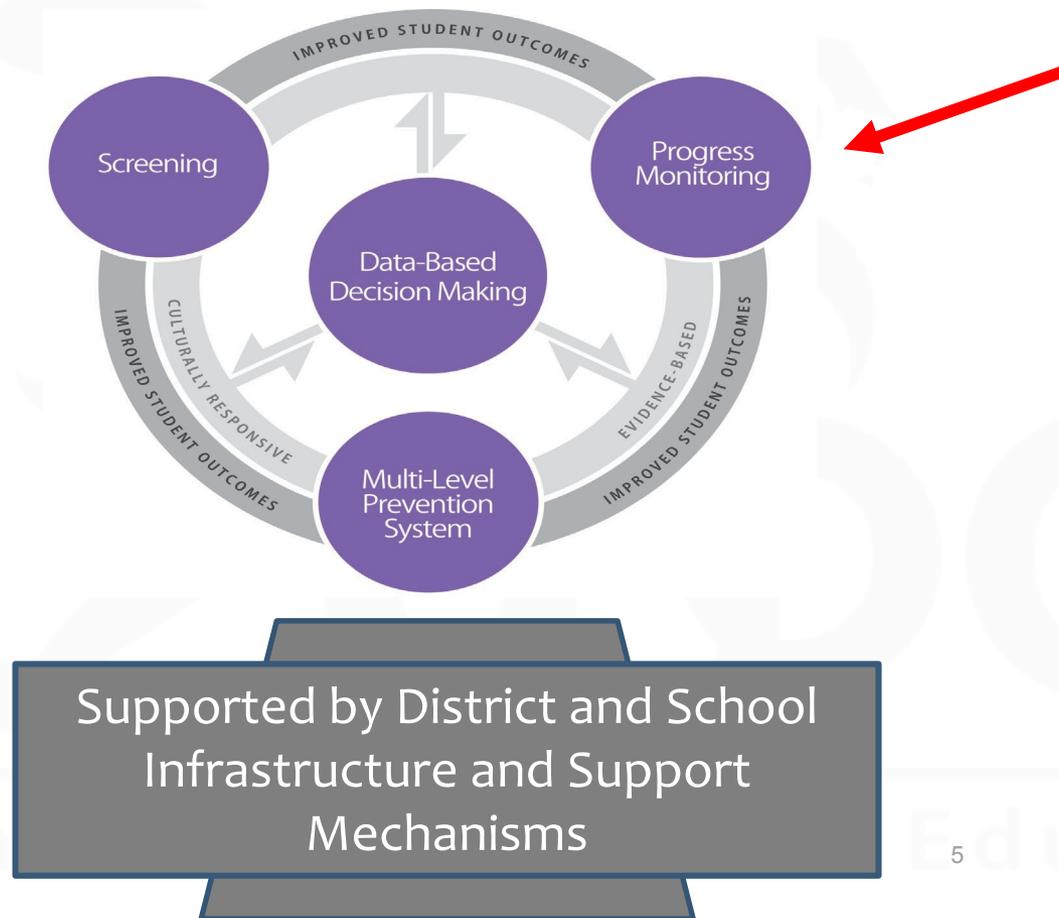
Remember: MTSS is About Addressing the Whole Child

Reading Fluency

Reading Comprehension

Self-Regulation

Engagement

Math Calculation

Emotional Skills

Science

Written Expression

Attendance

Communication Skills

Social Skills

Supports are tiered, NOT students

Reflection

- To what extent do teachers use progress monitoring in making decisions about changes/adaptations to interventions?

Essential Components of the Nationally Aligned MTSS Framework

Supported by District and School Infrastructure and Support Mechanisms

5

MTSS Fidelity Rubric

Center on
RESPONSE to INTERVENTION
at American Institutes for Research ■

AIR
AMERICAN INSTITUTES FOR RESEARCH

Multi-Tiered System of Support Fidelity of Implementation Rubric

The Multi-tiered System of Support (MTSS) Fidelity Rubric is for use by individuals who are responsible for monitoring school-level fidelity of MTSS implementation. The rubric is aligned with the essential components of a tiered system of support and the infrastructure that is necessary for successful implementation. It is accompanied by a worksheet with guiding questions and score points for use in an interview with the leadership team.

Assessments—Screening, progress monitoring, and other supporting assessments are used to inform data-based decision making.			
Measures	**1**	**3**	**5**
Screening—The MTSS framework accurately identifies students at risk of poor learning outcomes or challenging behaviors.			
Screening Tools	Insufficient evidence that the screening tools are reliable, correlations between the instruments and valued outcomes are strong, and predictions of risk status are accurate.	Evidence indicates that the screening tools are reliable, correlations between the instruments and valued outcomes are strong, and predictions of risk status are accurate, but staff is unable to articulate the supporting evidence.	Evidence indicates that the screening tools are reliable, correlations between the instruments and valued outcomes are strong, and predictions of risk status are accurate, and staff is able to articulate the supporting evidence.
Universal Screening	One or none of the following conditions is met: (1) screening is conducted for all students (i.e., is universal); (2) procedures are in place to ensure implementation accuracy (i.e., all students are tested, scores are accurate, cut points/decisions are accurate); and (3) a process to screen all students occurs more than once per year (e.g., fall, winter, spring).	Two of the following conditions are met: (1) screening is conducted for all students (i.e., is universal); (2) procedures are in place to ensure implementation accuracy (i.e., all students are tested, scores are accurate, cut points/decisions are accurate); and (3) a process to screen all students occurs more than once per year (e.g., fall, winter, spring).	All of the following conditions are met: (1) screening is conducted for all students (i.e., is universal); (2) procedures are in place to ensure implementation accuracy (i.e., all students are tested, scores are accurate, cut points/decisions are accurate); and (3) a process to screen all students occurs more than once per year (e.g., fall, winter, spring).
Data Points to Verify Risk	Screening data are not used or are used alone to verify decisions about whether a student is or is not at risk.	Screening data are used in concert with at least one other data source (e.g., classroom performance, curriculum-based assessment, performance on state	Screening data are used in concert with at least two other data sources (e.g., classroom performance, performance on state assessments, diagnostic assessment

Focus: Progress Monitoring Across the Tiers

	Tier I	Tier II	Tier III
Instruction or Intervention Approach	Comprehensive, research-based curriculum	Standardized, targeted small-group instruction	Individualized, based on student data
Group Size	Classwide (with some small-group instruction)	3–7 students	No more than 3 students
Assessment	Screening, 3 times yearly	**At least biweekly or monthly**	**Weekly**
Population Served	All students	Students identified as at risk (~15%–20%)	Significant and persistent learning needs, nonresponders (3%–5%)

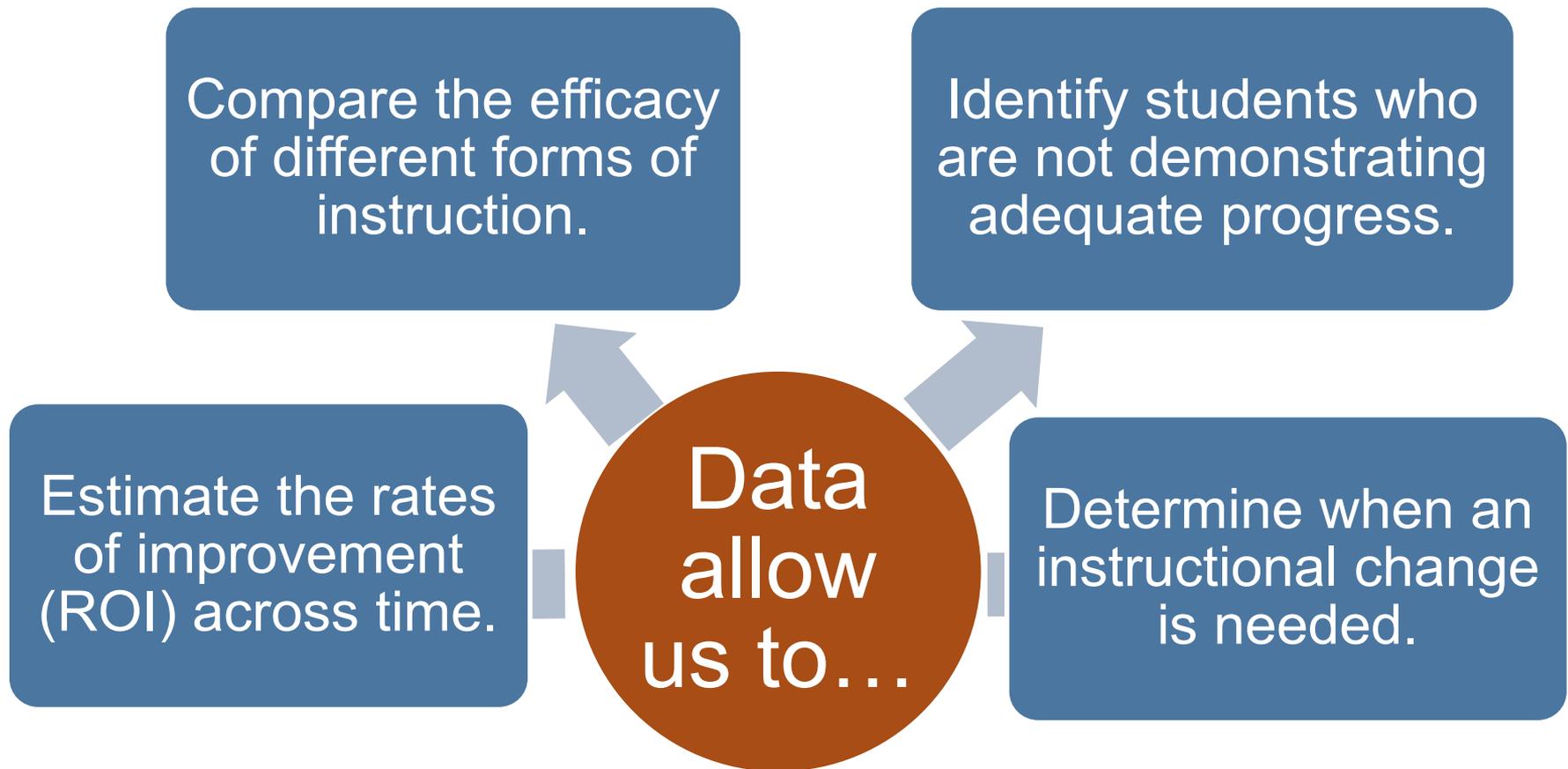# **Overview of Progress Monitoring**

Why Progress Monitoring?

When teachers use systematic progress monitoring to track their students' progress in reading, mathematics, or spelling, they are better able to identify students in need of additional or different forms of instruction, they design stronger instructional programs, and their students achieve better.

(Fuchs & Fuchs, 2002, p. 1)

Why Progress Monitoring?

Compare the efficacy of different forms of instruction.

Identify students who are not demonstrating adequate progress.

Estimate the rates of improvement (ROI) across time.

Data allow us to…

Determine when an instructional change is needed.
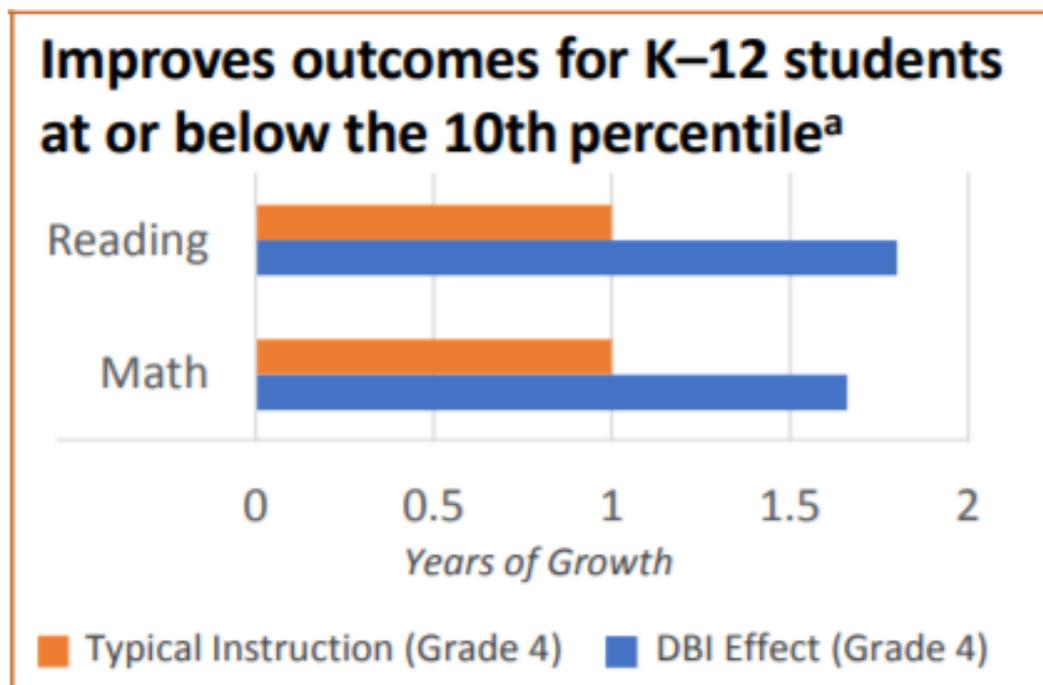
Why is Progress Monitoring Important?

To ensure that underachievement in a child suspected of having a specific learning disability is **not due to lack of appropriate instruction in reading or math**…must consider….

- **Data-based documentation** of **repeated assessments of achievement** at **reasonable intervals**, reflecting **formal assessment of student progress** during instruction, which was provided to the child's parents.

34 C.F.R. § 300.309(a-b)

Why Progress Monitoring?

- Learning Goals vs. no goals (Hattie, 2018; ES = .68)

- Formative Evaluation (Hattie 2011, 2015; ES = .68 to .90)

Improves outcomes for K–12 students at or below the 10th percentile[a]

Reading

Math

0   0.5   1   1.5   2

Years of Growth

■ Typical Instruction (Grade 4)   ■ DBI Effect (Grade 4)

(Fuchs, & Fuchs, 2003)

Fact: Progress Monitoring is the Least Implemented MTSS Component

Why? With your table, list reasons why you think schools may be less likely to implement progress monitoring with fidelity.

Common Reasons Provided By Educators:

- Takes too much time

- Too many students to test

- Testing time takes away from instruction

- Not important (e.g., I already monitor progress)

- Too much paperwork

Progress Monitoring Across the Tiers

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Group Size	Classwide (with some small-group instruction)	3–7 students	No more than 3 students
Assessment	Screening, 3 times yearly	At least biweekly or **monthly**	**Weekly**
Population Served	All students	Students verified as at risk **(~15%–20%)**	Significant and persistent learning needs, nonresponders **(3%–5%)**

Did you know…

Monitoring progress is not the same as **progress monitoring**.

Monitoring Progress

- Can occur daily
- Occurs during instruction
- Provides data for immediate, real-time instructional decisions
- Aligns with HLPs (, e.g., interpreting student thinking)
- Often informal, unstandardized
- Used for ALL students
- Uses formative assessments, questioning, providing feedback, and similar strategies.

Progress Monitoring

- Standardized delivery
- Requires valid and reliable tools
- Frequency depends on intensity of instruction
- Requires ongoing data (i.e., 4-6 data points) for valid interpretation
- Used for entitlement decisions
- Requires graphed data
- Used for students verified as at-risk (~20-25%)

Critical Features of Progress Monitoring

Progress monitoring is repeated measurement of student performance over the course of intervention to index/quantify responsiveness to intervention and to thus determine, on an ongoing basis, when adjustments to the program are needed to improve responsiveness.
(National Center on Intervention Interventions, 2017)

Progress Monitoring Tools

Progress Monitoring Process

Selecting Valid and Reliable Progress Monitoring Tools

Activity: Progress Monitoring Assessment Inventory

How do you 'progress monitor' students' academic or behavior progress?

1. Make a list of **formal** tools you use to 'progress monitor'

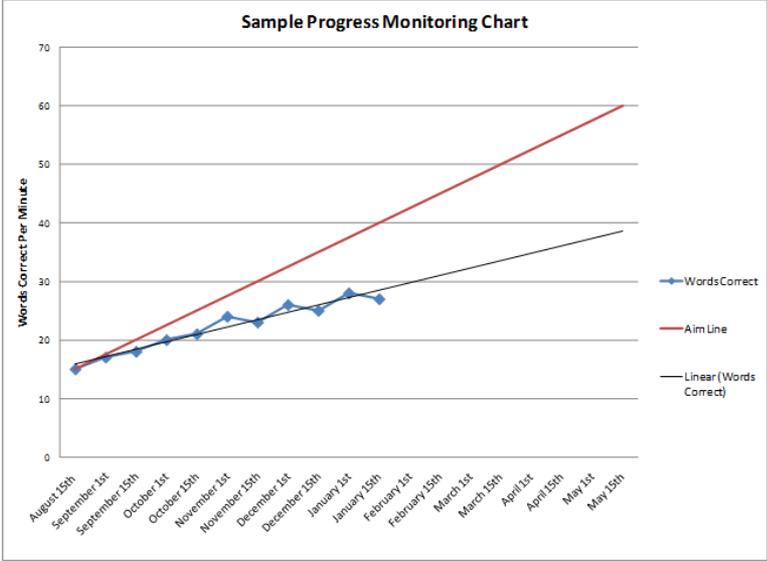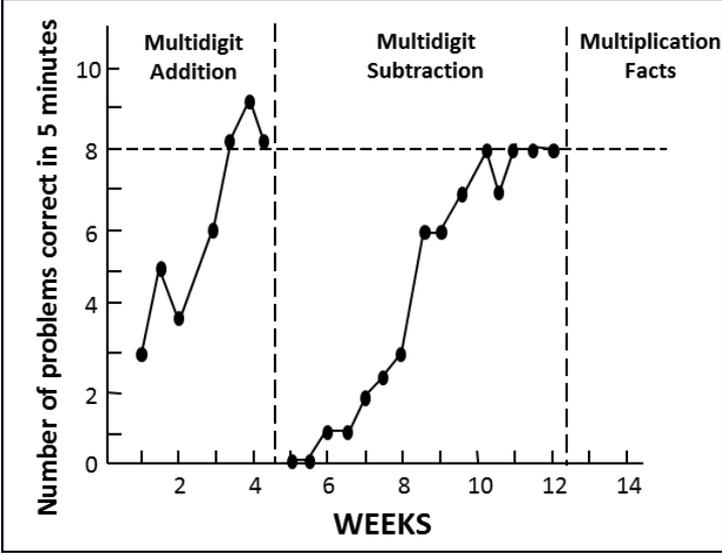2. Circle those tools that are connected to an intervention or program.
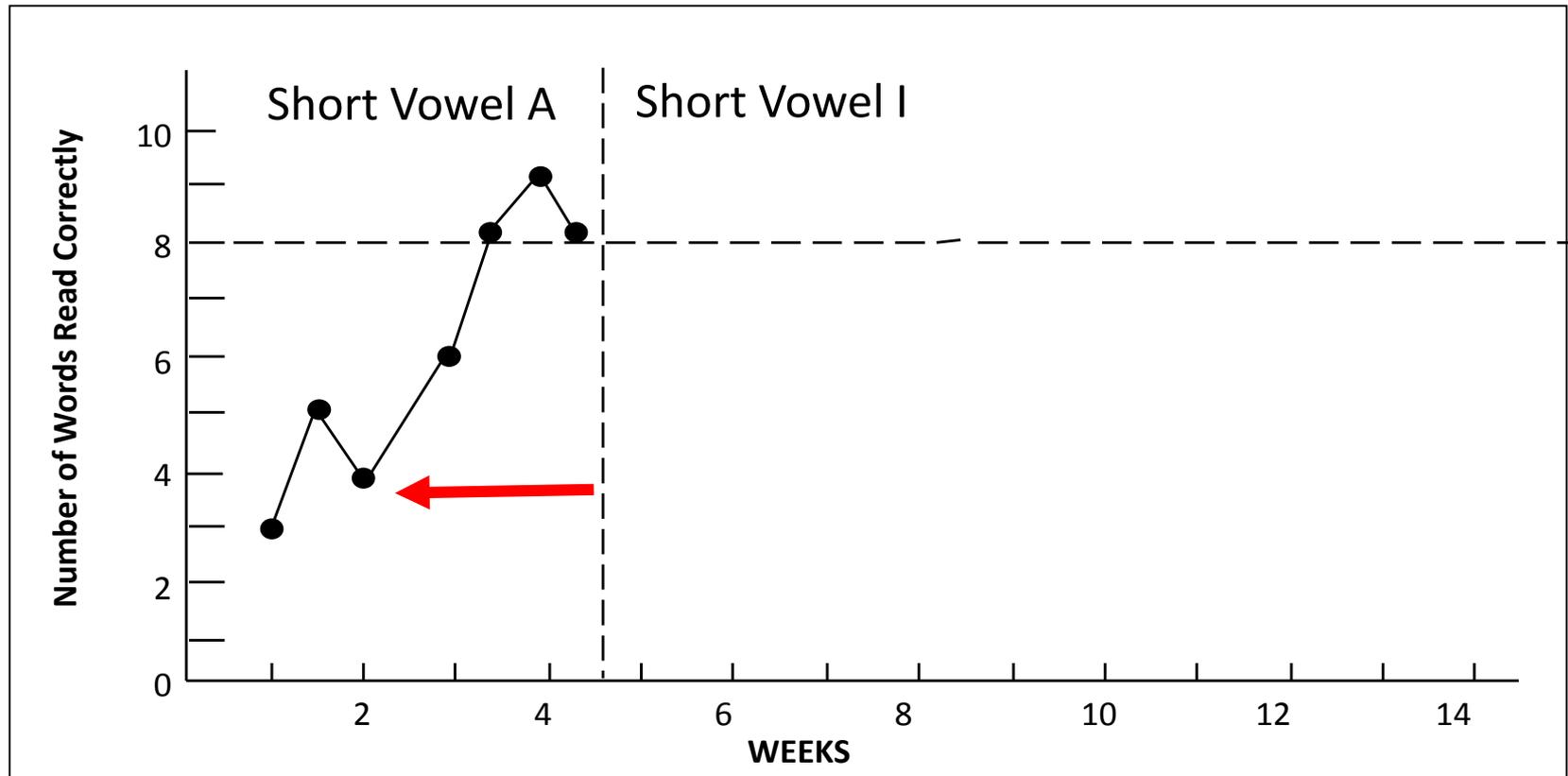
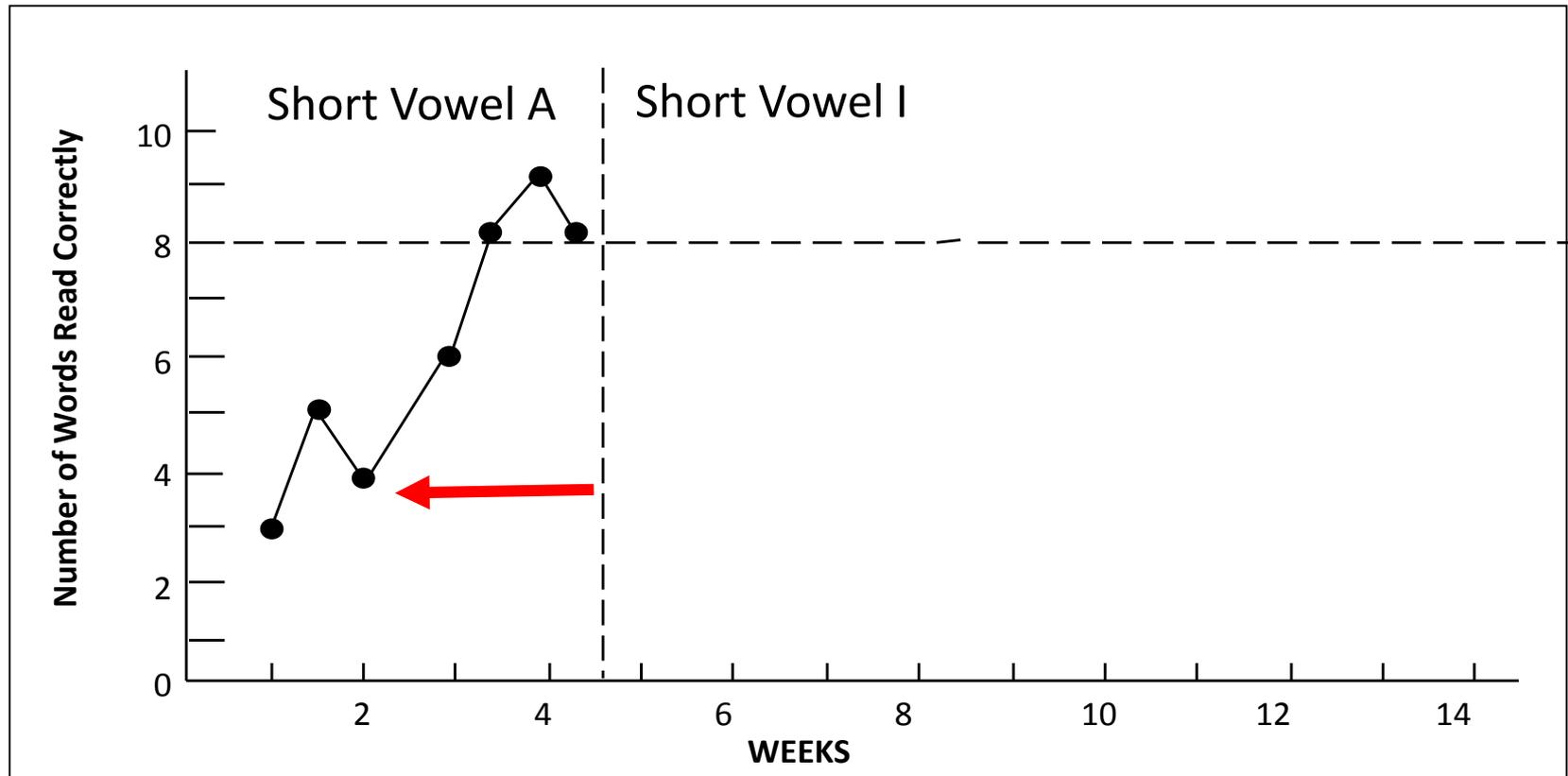# Approaches to Academic Progress Monitoring

Mastery Measures versus General Outcome Measures

Mastery Measure:
Focus on Specific Subskill
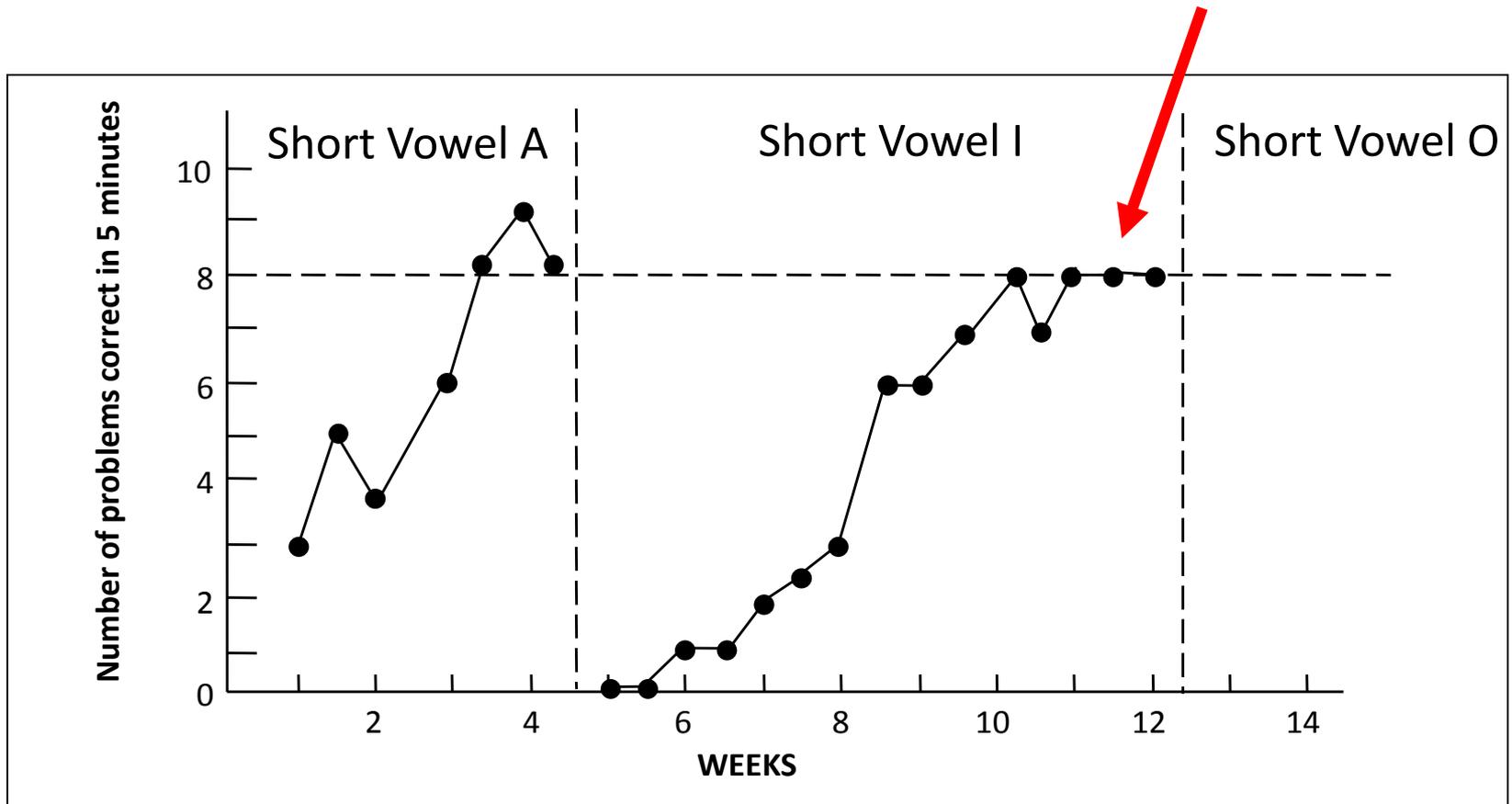
Mastery Measure:
Focus on Specific Subskill

Mastery Measure: Focus on Series of Short-term Instructional Objectives

1. Short Vowel A
2. Short Vowel I
3. Short Vowel O
4. Short Vowel U
5. Short Vowel E
6. Vowel Patterns A
7. Vowel Patterns I
8. Vowel Patterns O
9. Vowel Patterns U
10. Vowel Patterns E

Mastery Measure: Monitor Progress of Each Objective

THINK-PAIR-SHARE
Advantages of Mastery Measures

- What do you see as advantages of data from mastery measures?

- **Reported Advantages**

  – Skill and program specific

  – Data can assist in making changes to target skill instruction

  – Provide data about IF a child can learn a skill

THINK-PAIR-SHARE
Limitations of Mastery Measures

- What do you see as potential limitations of data from mastery measures?

- **Reported Limitations**

    – Data do not reflect skill maintenance or generalization.

    – Number of objectives mastered does not relate well to performance on criterion measures.

    – Measurement methods are often designed by teachers, with unknown reliability and validity.

   – Scores cannot be compared longitudinally.

General Outcome Measure (GOM)

- Reflects overall competence in the yearlong curriculum/expectation.

- Describes individual children's growth and development over time (both "current status" and "rate of development")

- Provides a decision making model for designing and evaluating interventions

- Is used for individual children and for groups of children

Interpreting Data from GOMs

Example: Reading Connected Text

Legend: Student Data — Goal Line — Trend Line
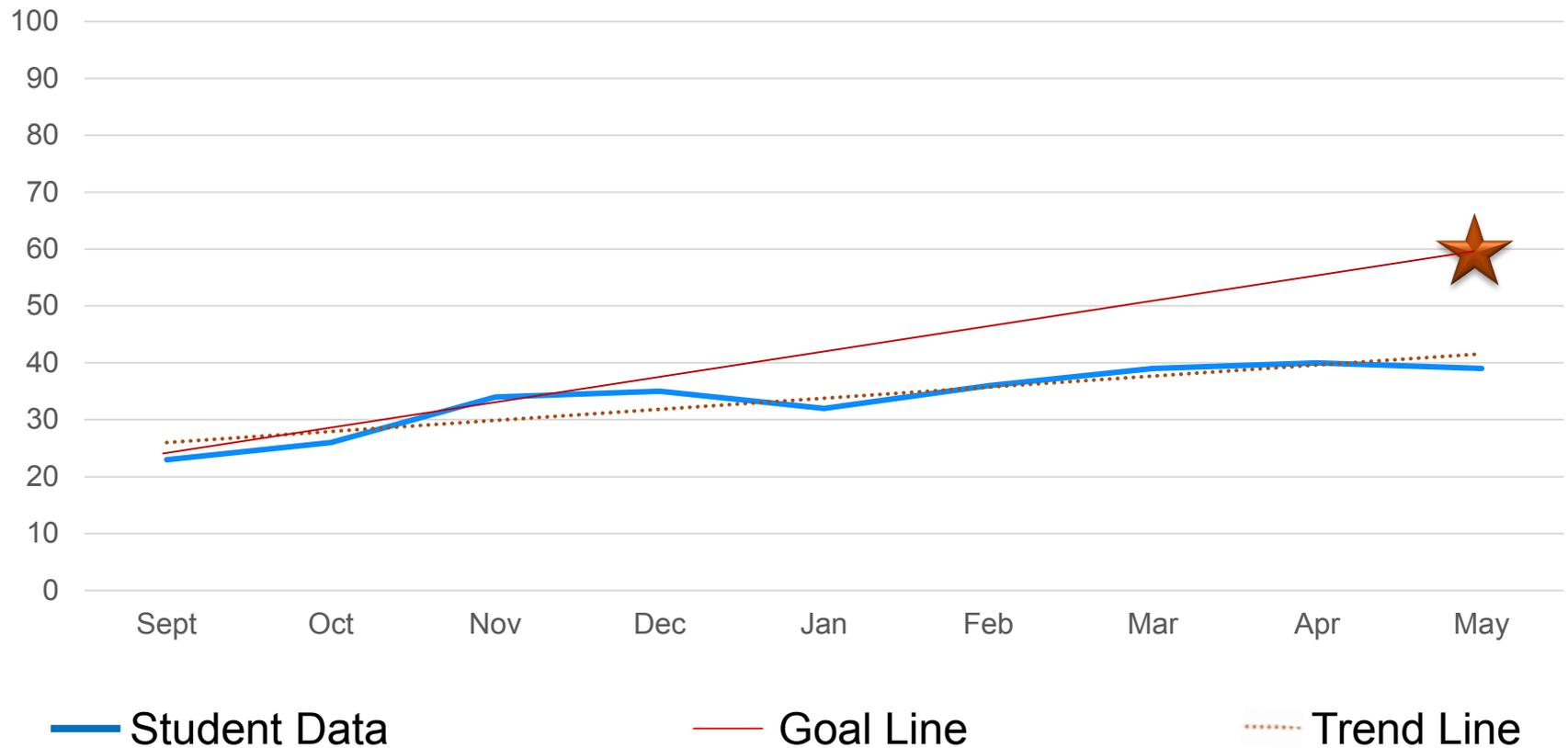
Advantages of GOMs

1. Focus is on repeated measures of performance

2. Makes no assumptions about instructional hierarchy for determining measurement

3. Curriculum independent

4. Incorporates automatic tests of retention and generalization

5. Often aligns with screener tool

What About Behavior Progress Monitoring Tools?
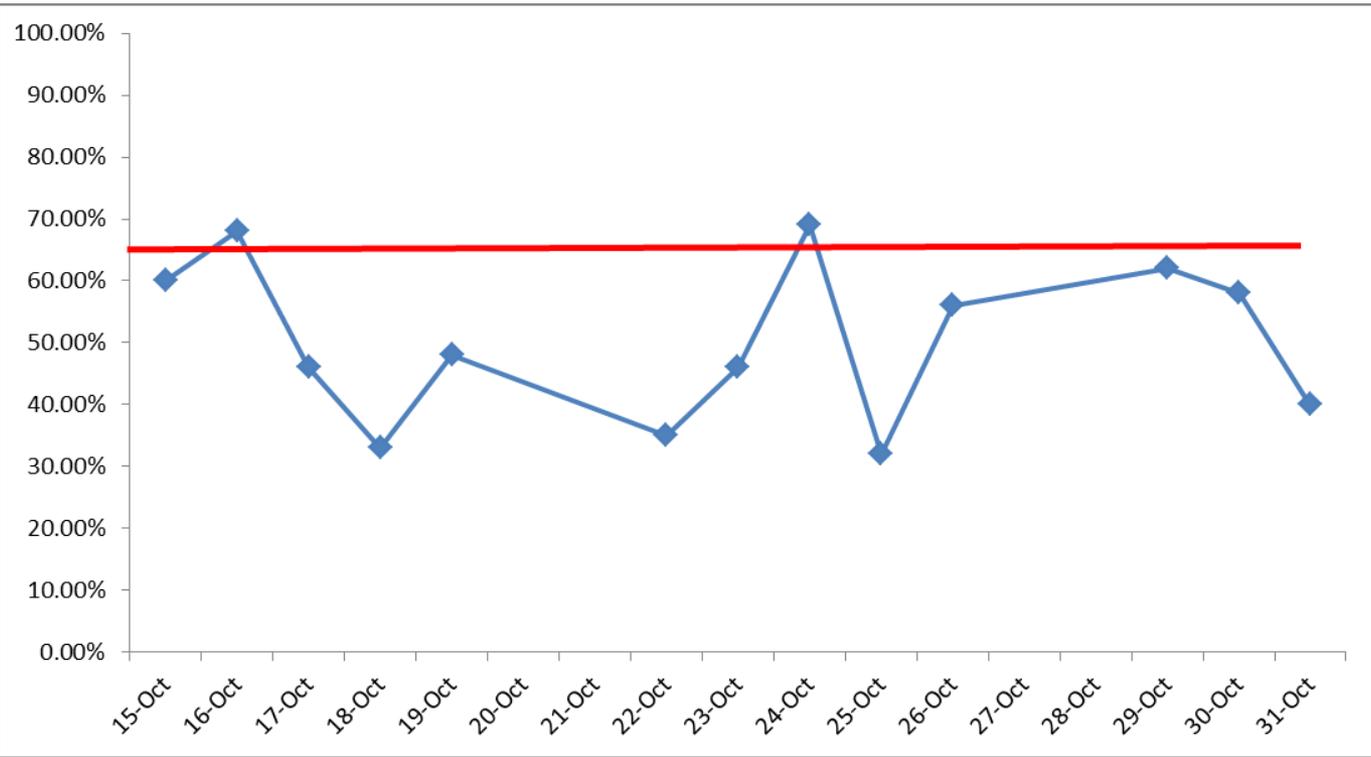
Data Collection Methods

Systematic Direct Observation

Direct Behavior Rating (DBR)
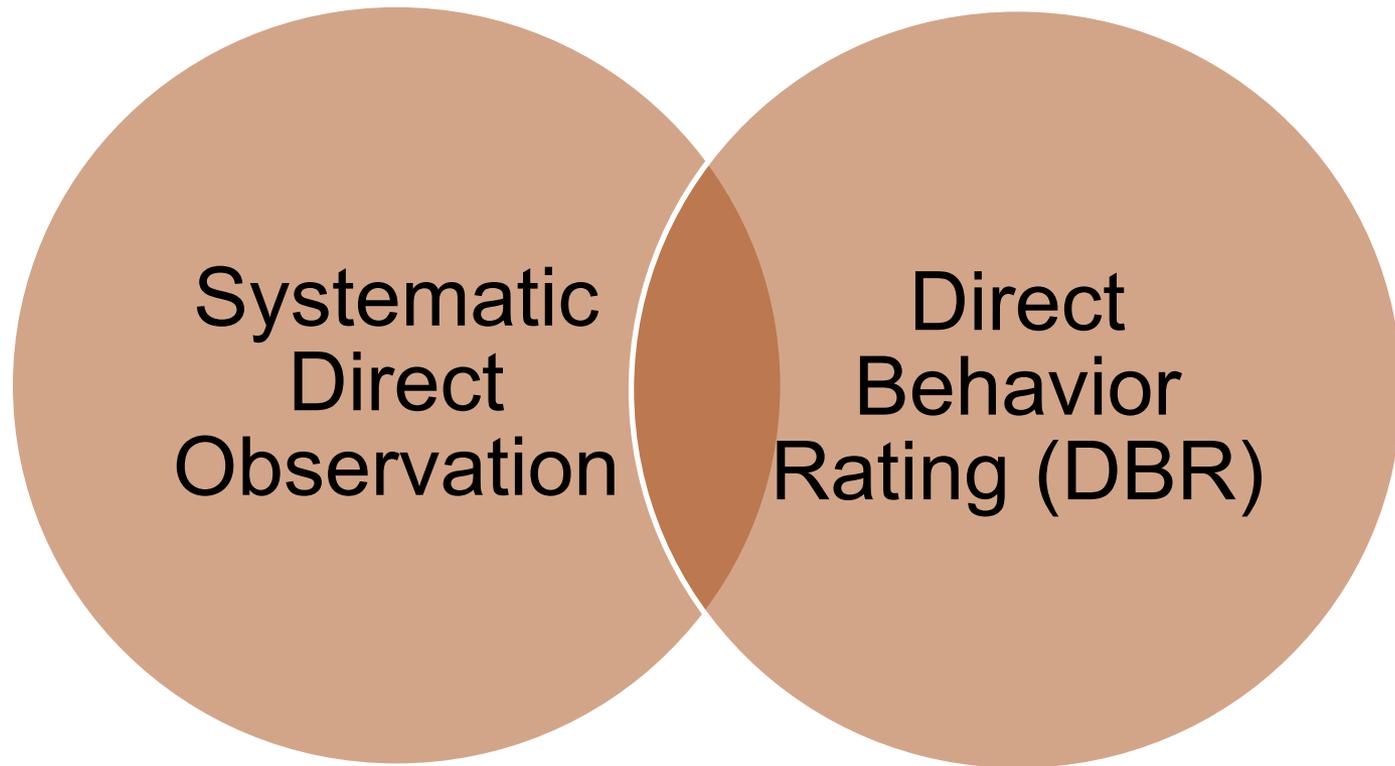
Systematic Direct Observation

- The process of watching a person or environment for a period of time and systematically recording behavior.

- Examples of observation:
  - Total number of times a student raises hand
  - Amount of time spent out of seat
  - Percentage of appropriate peer interactions

Systematic Direct Observation Strengths

- Observation data are a direct representation of the behavior.

- Direct observation is applicable to a wide range of observable behaviors.

- Adaptable procedures can measure various dimensions of behavior.

Systematic Direct Observation Dimensions

Behavior can be measured in terms of the following:

- Frequency – number of times behavior occurs
- Rate – number of times it occurs within a given time period (e.g., 10 times per hour)
- Duration – amount of time the behavior lasts
- Latency – temporal relation of behavior to other events (e.g., time to respond)
- Intensity – the magnitude or strength of the behavior

Systematic Direct Observation Limitations

- May not be feasible in classroom context
  - Time intensive
  - May require trained observer
  - Can be difficult to implement if observer must perform other duties at same time, such as teaching
- If not used because of these challenges, there is no data-based individualization.

Direct Behavior Rating (DBR)

Behavior	Date					
Disruption	9+	5	5	5	5	5
	7 – 8	4	4	4	4	4
	5 – 6	3	3	3	3	3
	2 – 4	2	2	2	2	2
	0 -1	1	1	1	1	1

| Target Behavior	Reading	Writing	Math	Art
Writes name on worksheet	✓	✓		✓
Follows rules			✓	✓
Prepared to learn	✓			

Total Points Earned = 6 or 50%

DBR Single-Item Scales (DBR-SIS)

Direct Behavior Rating (DBR) Form – Fill-in Behaviors

Date: M T W Th F	Student: Rater:	Activity Description:
Observation Time: Start:_____ End: _____ ☐ Check if no observation today	Behavior Descriptions:	

Directions: Place a mark along the line that best reflects the <u>percentage of total time</u> the student exhibited each target behavior. Note that the percentages do not need to total 100% across behaviors because some behaviors may co-vary. If desired, an additional behavior may be defined and rated.

Behavior: _____

% of Total Time

0	1	2	3	4	5	6	7	8	9	10
0%					50%					100%
Never					Sometimes					Always
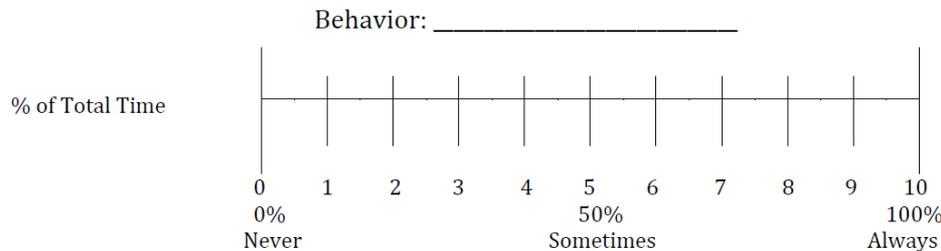
(Chafouleas, Riley-Tillman, & Christ, 2010)

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www.directbehaviorratings.org

DBR-Academic Engagement

Academic engagement

- Active or passive participation in the classroom activity
- *Examples* include writing, raising hand, answering a question, talking about a lesson, listening to the teacher, reading silently, and looking at instructional material.

(Chafouleas, Riley-Tillman, Christ, & Sugai, 2009)

Academic Engagement Example

Academically Engaged

Place a mark along the line that best reflects the percentage of total time the student was academically engaged during math today.

% of Total Time

0	1	2	3	4	5	6	7	8	9	10
0%					50%					100%
Never					Sometimes					Always
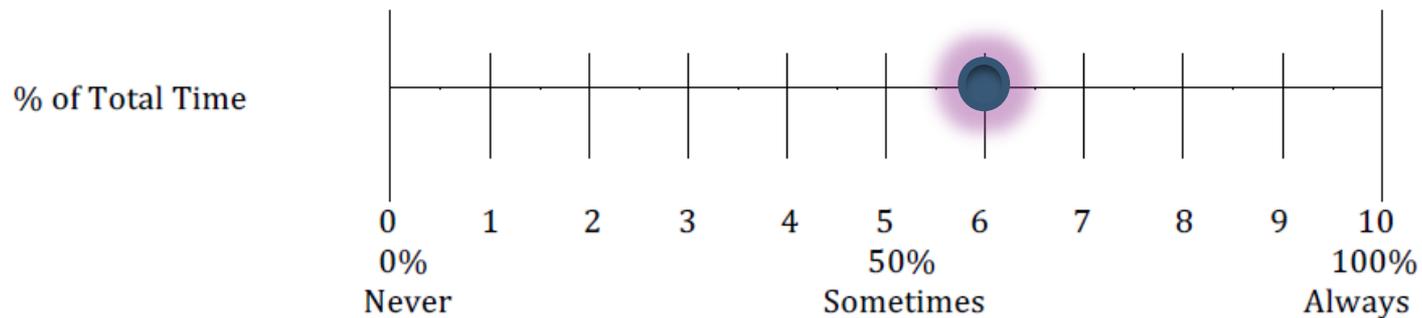
Interpretation: The teacher estimated that the student displayed *academically engaged* behavior during 60 percent of large-group math instruction today.

Slide adapted from Chafouleas (2011) with permission.

Examples: Secondary PM Tools

Tiers	Measures	Frequency
1	• Ongoing formative assessment • Common math assessments • Common writing prompts • Grades • Attendance • Behavior data	• Daily • Monthly • Monthly • Semester/quarterly • First 20 days of school
2	• Teacher developed algebra CBMs • Maze or oral reading passages • D/F reports • Systematic Direct Observations/DBR	• Every other week • Weekly/every other week • Weekly • Weekly
3	• Maze or oral reading passages • Teacher developed algebra CBMs • Intervention specific measures • Systematic Direct Observations/DBR	• Daily/Weekly • Daily

Selecting Progress Monitoring Tools

Behavior Progress Monitoring T

This tools chart presents information about behavior progress monitoring tools. T ratings on the technical rigor of the tools:

- Performance Level Standards
- Growth Standards
- Usability

Last updated: October 2018

FILTER RESULTS

Target Behaviors

☐ Internalizing

☐ Externalizing

Grade Level

☐ Pre-K

☐ Elementary (K-5)

☐ Middle School (6-8)

☐ High School (9-12)

Hide/Show Advanced Filters   Clear Filters

Reset Chart	Compare Tools	Prev Tab	Next Tab	Pe

All ☐	Title	Area	Age/Grade	Informant	Rel
☐	BASC-3 Flex Monitor	Developmental Social Disorders	Age 2-18	Parent	
☐	BASC-3 Flex Monitor	Developmental Social Disorders	Age 2-18	Teacher	

Academic Progress Monitoring Tools Chart

This tools chart presents information about academic progress monitoring tools. The following three tabs include ratings on the technical rigor of the tools:

- Performance Level Standards
- Growth Standards
- Usability

Last updated: October 2018

Legend

🔴 Convincing evidence

◑ Partially convincing evidence

⚪ Unconvincing evidence

— Data unavailable

[d] Disaggregated data available

View Chart Resources

FILTER RESULTS

Subject

☐ Mathematics

☐ Reading

☐ Spelling & Written Expression

Grade

☐ Elementary (K-5)

☐ High School (9-12)

☐ Middle School (6-8)

☐ Pre-K

Apply   Print Chart

Hide/Show Advanced Filters   Clear Filters

Reset Chart	Compare Tools	Prev Tab	Next Tab	Performance Level Standards	Growth Standards	Usability

All ☐	Title	Area	Grade	Measure	Reliability	Validity	Bias Analysis Conducted
☐	aimswebPlus Math	Math Facts Fluency-1 Digit	1	Short Term Skill	⚪	◑	No
☐	aimswebPlus Math	Number Comparison Fluency-Pairs	1	Short Term Skill	⚪	◑	No

Critical Feature 1: Progress Monitoring Tools

CRITERIA 1. have sufficient number of alternate forms of equal and controlled difficulty to allow for progress monitoring at recommended intervals based on intervention level;

- Tier II: At least 9 alternate forms
- Tier III: At least 20 alternate forms

Criteria 1. Sufficient number of alternate forms

Critical Feature 1: Progress Monitoring Tools

CRITERIA 2. specify minimum acceptable growth;

CRITERIA 3. provide benchmarks for minimum acceptable end-of-year performance; and

Criteria 2. Specify minimum acceptable growth

Criteria 3. Benchmarks for minimum acceptable end-of-year performance

NOTE: Behavior PM Tools look at levels of performance

Critical Feature 1: Progress Monitoring Tools

CRITERIA 4. have available reliability and validity information for the performance-level score

and staff is able to articulate the supporting evidence.

Criteria 4. Reliability and validity information for the performance-level score

Critical Features of Progress Monitoring

Progress monitoring is repeated measurement of student performance over the course of intervention to index/quantify responsiveness to intervention and to thus determine, on an ongoing basis, when adjustments to the program are needed to improve responsiveness.
(National Center on Intervention Interventions, 2017)

Progress Monitoring Tools

Progress Monitoring Process

Critical Feature 2: Progress Monitoring Process

- CRITERIA 1. progress monitoring occurs **at least monthly** for students receiving Tier II and **at least weekly** for students receiving Tier III.

- What does the research say?

  - As the number of data points increases, the effects of measurement error on the trend line decreases.

  - Christ & Silberglitt (2007) recommended six to nine data points.

Critical Feature 2: Progress Monitoring Process

- CRITERIA 2: procedures are in place to ensure implementation accuracy.

Identifying Appropriate Students	Goal Setting
Data Collection and Entry	Data Decision Making

Progress Monitoring Process

- Step 1. Identify students in need of progress monitoring and/or intervention through risk verification.
- Step 2. Establish progress monitoring plan: tool, goal, duration, and schedule.
- Step 3. Select an intervention that is likely to support students in reaching the goal.
- Step 4. Implement intervention with fidelity and collect progress monitoring data.
- Step 5. Evaluate student's response to validated intervention.

Progress Monitoring Process: Identifying Appropriate Students

Critical Feature 2: Progress Monitoring Process

- CRITERIA 2: procedures are in place to ensure implementation accuracy.

Identifying Appropriate Students	Goal Setting
Data Collection and Entry	Data Decision Making

Identifying At-Risk and Potentially At-Risk Students

Requires valid and reliable screening tool with high classification accuracy

- Examples of common tools
  - DIBELS
  - STAR Literacy and Math
  - Fastbridge
  - Check In- Check Out

Identifying Students for Progress Monitoring

- Conduct scheduled primary screener with fidelity

- Identify students considered at-risk and potentially at risk.
    - » Students in "yellow/red"
    - » Students ranked at bottom of "green"

- Verify risk status through secondary data sources

Primary Screener: Identifying Risk

ID	Name	Corrects	Errors	Accuracy	Performance Summary	Potential Instructional Action
01256	Jim	107			Established	Continue Primary Prevention
02343	Jenny	107			Established	Continue Primary Prevention
16705	Jackie	105			Established	Continue Primary Prevention
02341	Jill	103			Established	Continue Primary Prevention
23602	Jerry	101			Established	Continue Primary Prevention
14507	Jack	101			Established	Continue Primary Prevention
06235	Jerome	90			Established	Continue Primary Prevention
01267	Joann	88			Established	Continue Primary Prevention
20002	Jared	86			Established	Continue Primary Prevention
00012	Jason	80			Established	Continue Primary Prevention
12325	Jeff	77			Established	Continue Primary Prevention
02345	Jessica	77			Established	Continue Primary Prevention
01384	Jen	74			Established	Continue Primary Prevention
04312	Jim	72			Established	Continue Primary Prevention
08752	Jeremy	71			Established	Continue Primary Prevention
Emerging > 70						
14562	Jackson	69			Emerging	Assess and Consider Secondary Prevention
09873	Jessie	69			Emerging	Assess and Consider Secondary Prevention
05631	Jillian	60			Emerging	Assess and Consider Secondary Prevention
02344	Juanita	57			Emerging	Assess and Consider Secondary Prevention
12074	Jaclyn	55			Emerging	Assess and Consider Secondary Prevention
13551	Janet	53			Emerging	Assess and Consider Secondary Prevention
Deficient > 46						
01834	Jade	43			Deficient	Assess and Consider Need for Tertiary Prevention
23515	James	39			Deficient	Assess and Consider Need for Tertiary Prevention
22145	Jed	31			Deficient	Assess and Consider Need for Tertiary Prevention

Potentially At-Risk

At-Risk

Verifying Risk Status Through Secondary Data

Progress Monitoring

- **4-6 progress monitoring data points**
- **Most effective in K-2 Settings**

Additional Literacy Assessment Tools

- Early Literacy Survey (ELS)
- WRAP
- Diagnostic Reading Assessment (DRA)
- Common Classroom Assessment
- Core Assessments/Grades

Sample

	PRIMARY SCREENING	SECONDARY DATA SOURCE	Decision
Bill	Potentially At-Risk	Not At-Risk	
Bob	Potentially At-Risk	At-Risk	
James	Potentially At-Risk	Not At-Risk	
Sara	At-Risk	Not at-Risk	
Tina	At-Risk	At-Risk	
Lena	At-Risk	Not At Risk	
Sandy	At-Risk	At-Risk	
Frank	At-Risk	At-Risk	
Vivian	At-Risk	At-Risk	
Monty	At-Risk	At-Risk	
Ken	At-Risk	At-Risk	
Brian	At-Risk	At-Risk	

	PRIMARY SCREENING	SECONDARY DATA SOURCE	Decision
Bill	Potentially At-Risk	Not At-Risk	Tier I+
Bob	Potentially At-Risk	At-Risk	?
James	Potentially At-Risk	Not At-Risk	Tier I +
Sara	At-Risk	Not at-Risk	?
Tina	At-Risk	At-Risk	Intervention
Lena	At-Risk	Not At Risk	?
Sandy	At-Risk	At-Risk	Intervention
Frank	At-Risk	At-Risk	Intervention
Vivian	At-Risk	At-Risk	Intervention
Monty	At-Risk	At-Risk	Intervention
Ken	At-Risk	At-Risk	Intervention
Brian	At-Risk	At-Risk	Intervention

	PRIMARY SCREENING	SECONDARY DATA SOURCE	ADDITIONAL DATA SOURCE	Decision
Bill	Potentially At-Risk	Not At-Risk	-	Tier I+
Bob	**Potentially At-Risk**	**At-Risk**	**At-Risk**	**?**
James	Potentially At-Risk	Not At-Risk	-	Tier I +
Sara	**At-Risk**	**Not at-Risk**	**At-Risk**	**?**
Tina	At-Risk	At-Risk	-	Intervention
Lena	**At-Risk**	**Not At Risk**	**At-Risk**	**?**
Sandy	At-Risk	At-Risk	-	Intervention
Frank	At-Risk	At-Risk	-	Intervention
Vivian	At-Risk	At-Risk	-	Intervention
Monty	At-Risk	At-Risk	-	Intervention
Ken	At-Risk	At-Risk	-	Intervention
Brian	At-Risk	At-Risk	-	Intervention

	PRIMARY SCREENING	SECONDARY DATA SOURCE	ADDITIONAL DATA SOURCE	Decision
Bill	Potentially At-Risk	Not At-Risk	-	Tier I+
Bob	**Potentially At-Risk**	**At-Risk**	**At-Risk**	**Intervention**
James	Potentially At-Risk	Not At-Risk	-	Tier I +
Sara	**At-Risk**	**Not at-Risk**	**At-Risk**	**Intervention**
Tina	At-Risk	At-Risk	-	Intervention
Lena	**At-Risk**	**Not At Risk**	**At-Risk**	**Intervention**
Sandy	At-Risk	At-Risk	-	Intervention
Frank	At-Risk	At-Risk	-	Intervention
Vivian	At-Risk	At-Risk	-	Intervention
Monty	At-Risk	At-Risk	-	Intervention
Ken	At-Risk	At-Risk	-	Intervention
Brian	At-Risk	At-Risk	-	Intervention

Using Additional Data Sources for Risk Verification for Very Few Students

- Not necessary when using progress monitoring for secondary screening or risk verification

- Data should be readily accessible and generally valid and reliable

- Consider progress monitoring or classroom assessment

Screening and Tier 3

- Remember most screening tools aren't designed to identify students in need of Tier 3 or individualized instruction.

- **Use progress monitoring data instead!**

ID	Name	Corrects	Errors	Accuracy	Performance Summary	Potential Instructional Action
01256	Jim	107			Established	Continue Primary Prevention
02343	Jenny	107			Established	Continue Primary Prevention
16705	Jackie	105			Established	Continue Primary Prevention
02341	Jill	103			Established	Continue Primary Prevention
-------------Cut score = 102-----------						
23602	Jerry	101			Established	Continue Primary Prevention
14507	Jack	101			Established	Continue Primary Prevention
06235	Jerome	90			Established	Continue Primary Prevention
01267	Joann	88			Established	Continue Primary Prevention
20002	Jared	86			Established	Continue Primary Prevention
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05631	Jillian	60			Emerging	Assess and Consider Secondary Prevention
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01834	Jade	43			Deficient	Assess and Consider Need for Tertiary Prevention
23515	James	39			Deficient	Assess and Consider Need for Tertiary Prevention
22145	Jed	31			Deficient	Assess and Consider Need for Tertiary Prevention

Progress Monitoring Process: Goal Setting

Critical Feature 2: Progress Monitoring Process

- CRITERIA 2: procedures are in place to ensure implementation accuracy.
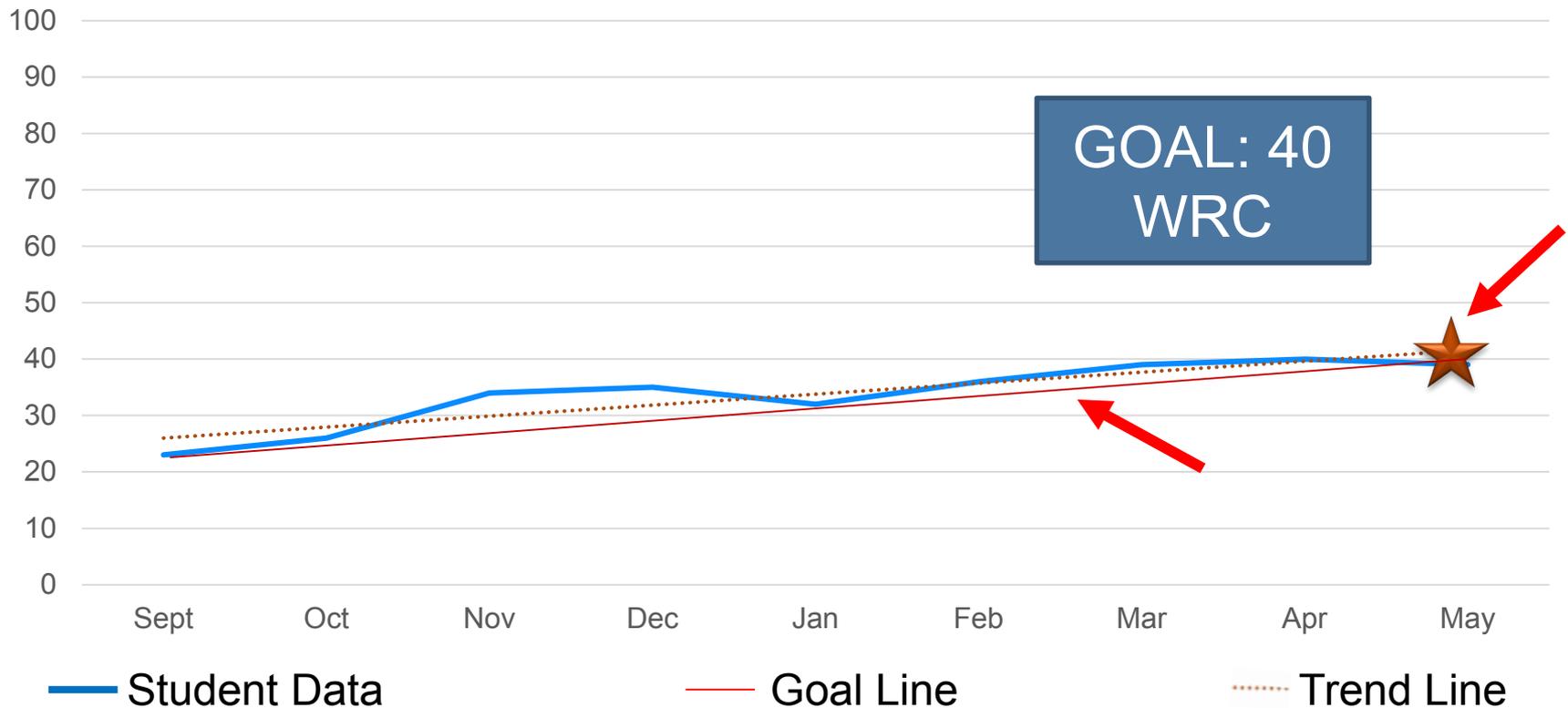
| Identifying Appropriate Students	Goal Setting
Data Collection and Entry	Data Decision Making

Scenario 1: Importance of Using Validated Goal Setting Procedures

1st Grade: Reading Connected Text

GOAL: 40 WRC

Legend: Student Data — Goal Line — Trend Line

Scenario 2: Importance of Using Validated Goal Setting Procedures

1st Grade: Reading Connected Text

GOAL: 60 WRC

Legend: Student Data, Goal Line, Trend Line
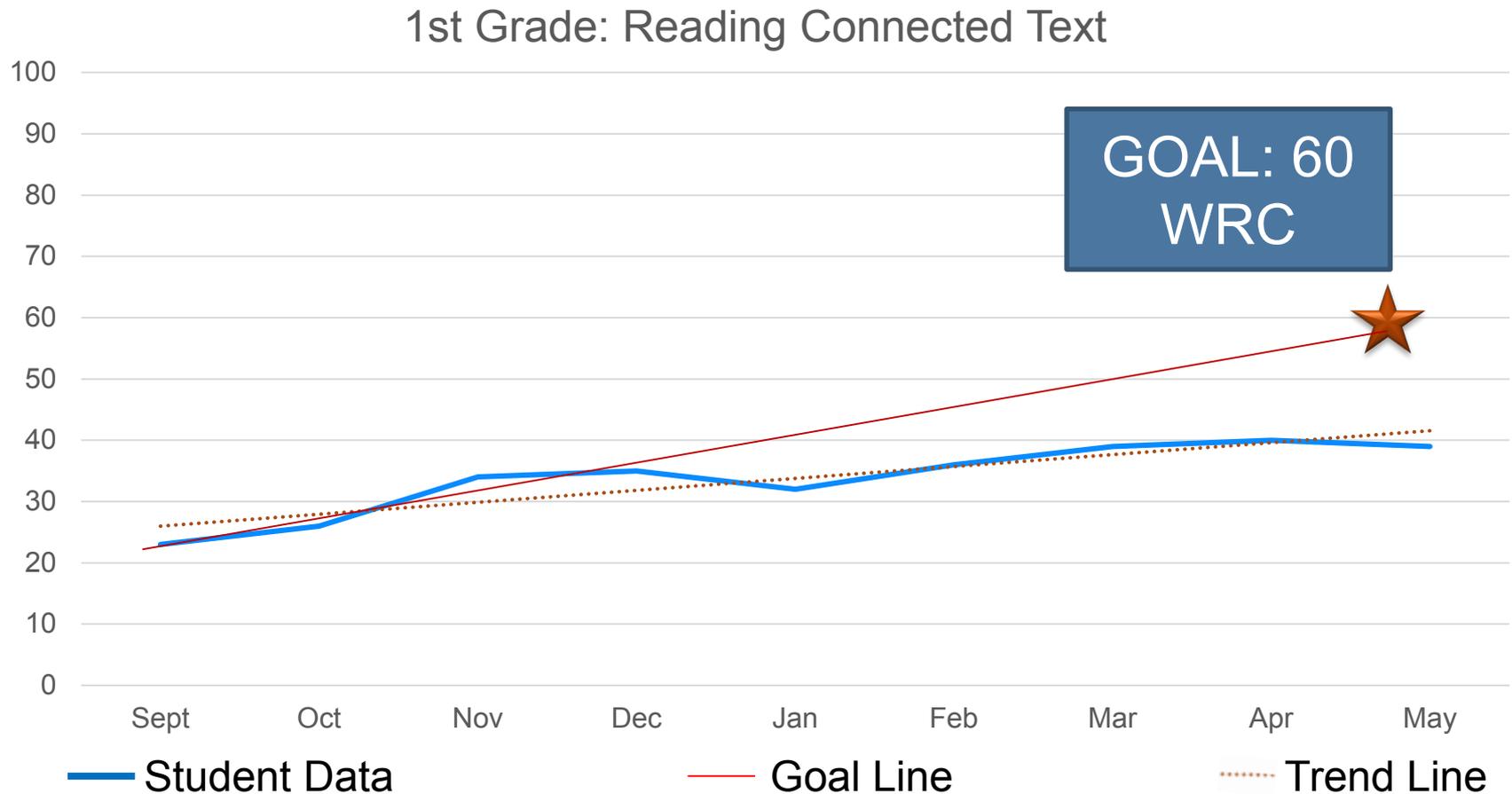
Setting Goals Based on Logical Practices

Team members must know…

- **How** the goal was set

- **Why** the goal was set that way

- The **intensity** of the intervention provided to meet the goal

Knowing the goal helps educators select appropriate interventions to help students reach the goal.

Progress Monitoring Goal Setting Strategies

There are three validated approaches to setting goals:

1. Benchmarks
2. National norms for weekly ROI
3. Intra-individual framework

Handout
3

Before you begin…establish baseline

Set using same tool that will be used for progress monitoring

Approaches:

– Use benchmark score (preferred)

– Use the median scores of three probes or three consecutive probes if between benchmarks

Example: Establish Baseline Score
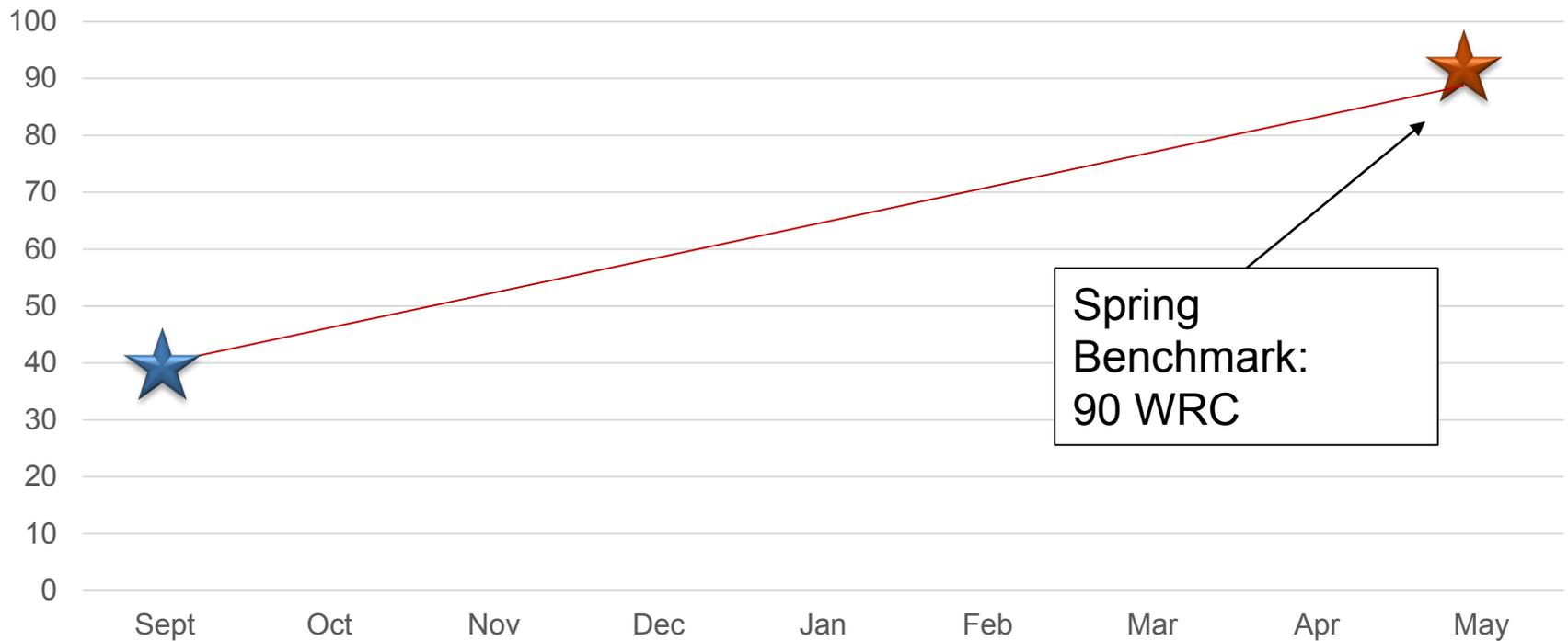
Jane – 1st Grade: Reading Connected Text

Jane's Winter Benchmark Score = 23 WRC
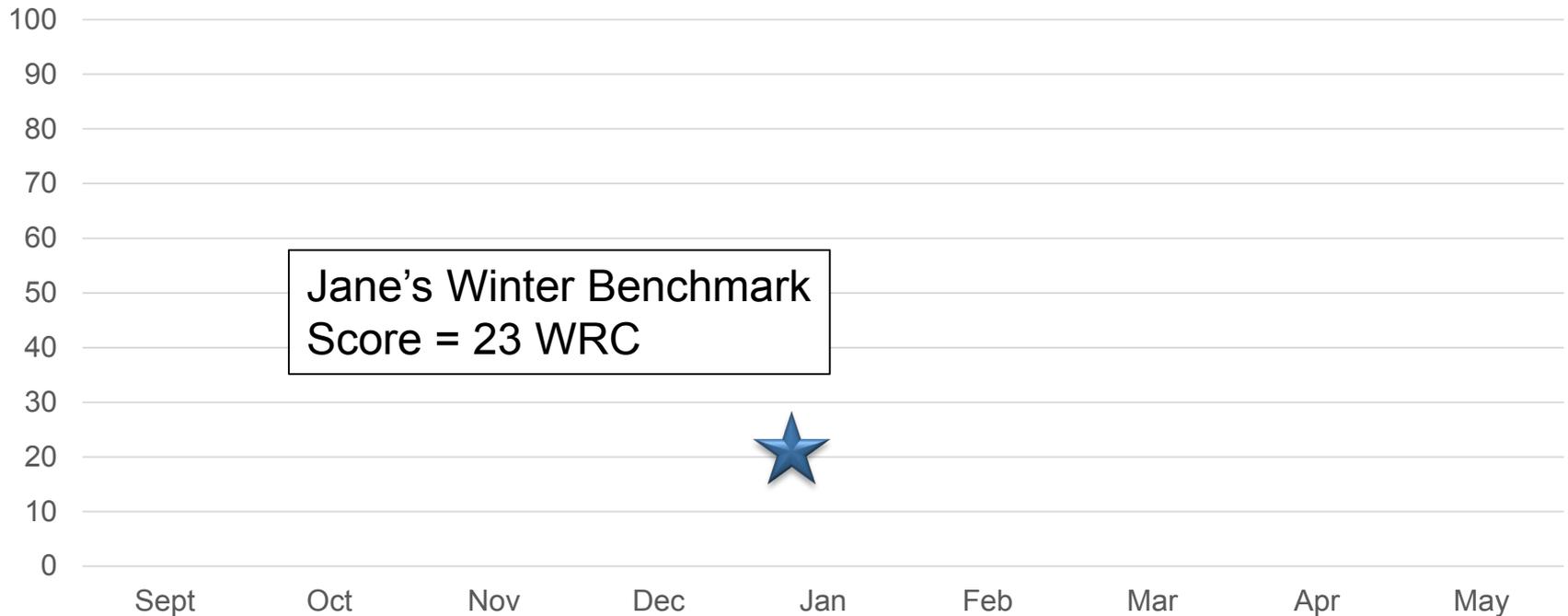
Option 1: Using Benchmarks

- End or middle-of-year benchmarking

    – Identify appropriate grade-level benchmark

    – Mark benchmark on student graph with an X

    – Draw goal line from baseline score to X

- Note: Electronic data systems will draw the goal line once the goal is selected
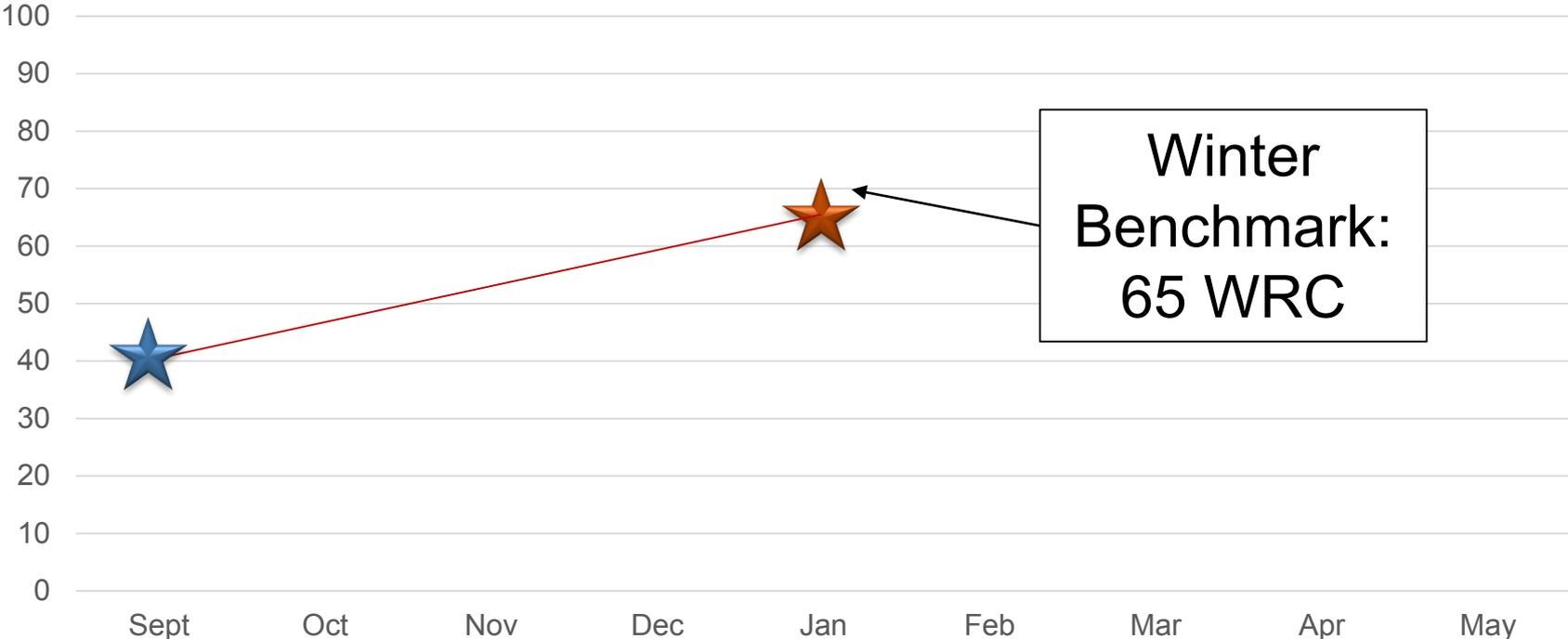
Option 1: Setting Goals With End-of-Year Benchmark

SAMPLE – 2nd Grade: Reading Connected Text

Spring Benchmark: 90 WRC

Option 1: Setting Goals With Winter Benchmark

SAMPLE – 2nd Grade: Reading Connected Text

Winter Benchmark: 65 WRC

Where do you find benchmarks?

- Most published data systems provide the benchmarks within the system.

- Benchmarks can also be found in the tool's review in NCII tools chart.

Criteria 3. Benchmarks for minimum acceptable end-of-year performance

When should I set goals using the benchmarks?

- **Pros**
- Easy to use
- Expects ambitious growth
- Aimed at putting students on track to close achievement gap

- **Cons**
- Grade level benchmark may be unrealistic if student is too far below grade level

Recommendation: Use grade level benchmarks if a student is close to grade level. Consider off-grade level benchmarks for students well below grade level but moving to grade level.

Option 2: Using Weekly Rates of Improvement (ROI)

- Standard Formula for Calculating Goal Using Rate of Improvement (ROI):

  - ROI x # Weeks + Baseline Score = GOAL

ROI = 2 Digits/ Week **X** 10 Weeks **+** Baseline = 30 Digits **=** GOAL = 50 Digits
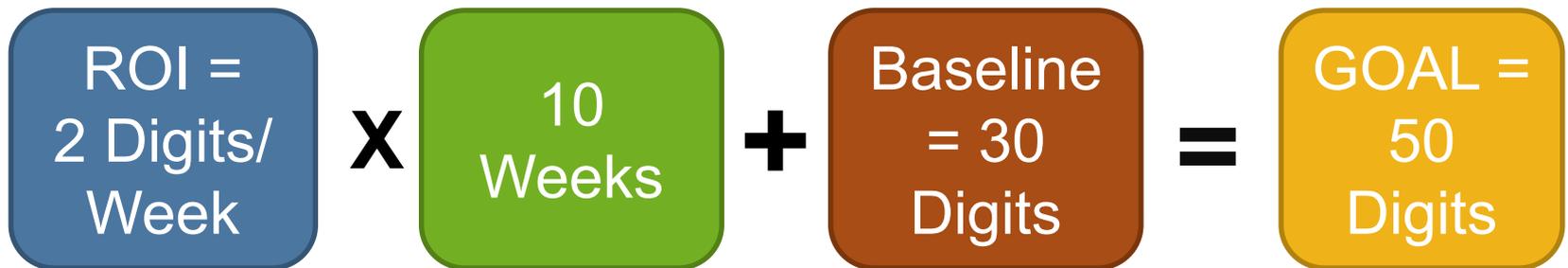
Where do you find ROI?

- Most published data systems provide the ROI within the system.

- ROI by grade can also be found in the tool's review in NCII tools chart

Criteria 2. Specify minimum acceptable growth

How do I set goals using ROI?

Grade	Reading—Slope	Computation CBM—Slope for Digits Correct	Concepts and Applications CBM—Slope for Points
K	1.0 (LSF)	—	—
1	1.8 (ORF)	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

Note: This example is used for illustrative purposes only. Please check with your tool's publisher for weekly ROI for each tool by grade level.

How do I set goals using ROI?

- Match the ROI to maintain the same level of achievement gap.

- To close the achievement gap, use recommendations for "ambitious" ROIs provided by many published progress monitoring tools.

- **How do you estimate expected weekly growth if ROI norms are not provided?**

  – Use local norms.

  – Estimate by dividing growth between benchmark periods by the number of weeks of instruction.

When should I set goals using ROI?

- **<u>Pros</u>**
- Provides option for reasonable or ambitious goals when benchmark is inappropriate.
- May be reasonable for children who can learn at the typical rate

- **<u>Cons</u>**
- Maintains achievement gaps if not ambitious ROI (may need higher than normal ROI to reach next benchmark)
- Requires calculation (tools are available)

Recommendation: Use ROI if a student can learn at a typical rate but the grade level benchmark is too high.

Goal Setting – Using Intra-Individual Framework

- Often used for students performing far below grade level or with very low skills, where typical growth rates are not appropriate.

- Use three most recent data points to calculate baseline score.

- Calculate student's ROI (SROI) based on at least eight data points.
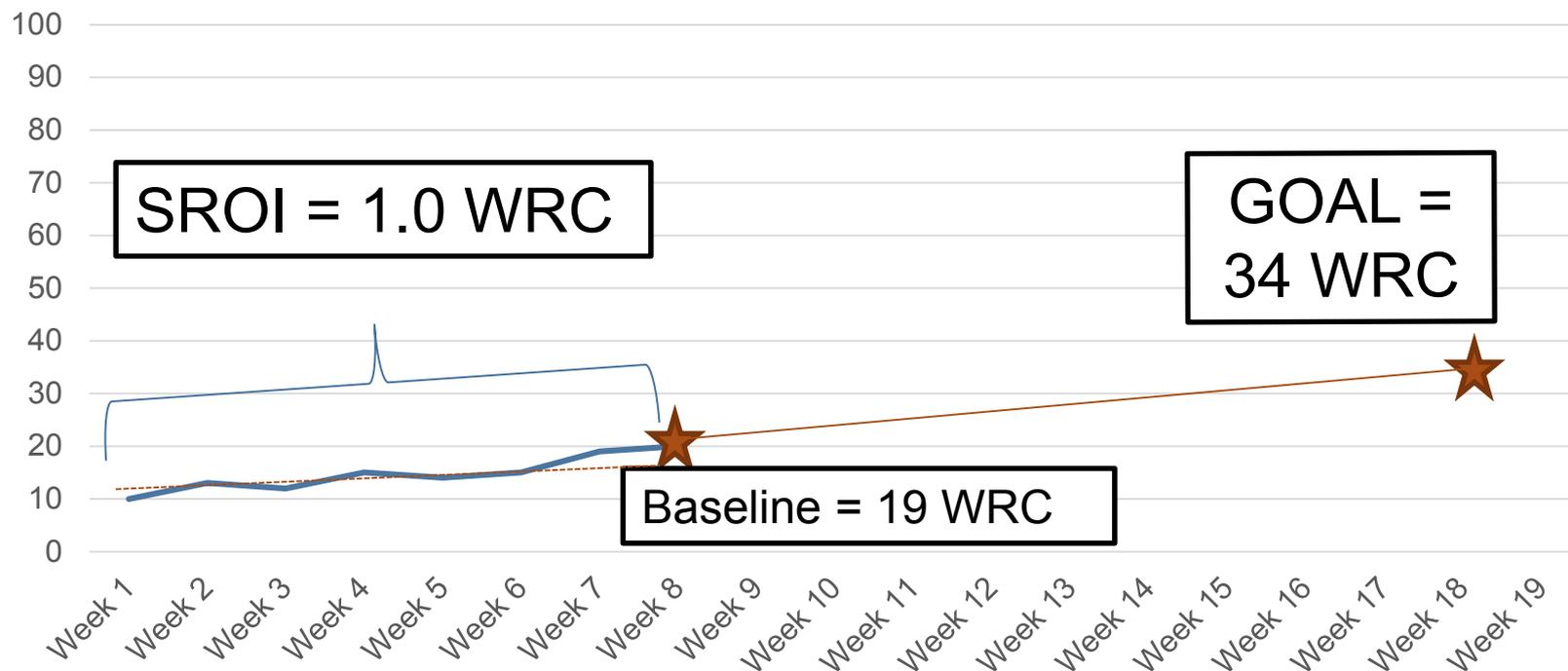
SROI × 1.5 × # Weeks

+ **Student's Baseline Score** (mean of 3 most recent scores)

GOAL

Goal Setting – Using Intra-Individual Framework

SAMPLE – 2nd Grade: Reading Connected Text

SROI = 1.0 WRC

GOAL = 34 WRC

Baseline = 19 WRC

Goal Setting – Using Intra-Individual Framework

- **Why 1.5?**

  - We know the current SROI is not sufficient to close the achievement gap; we want to increase growth at least by half (x 1.5).

  - A more ambitious goal may be set if appropriate (e.g., if after several weeks of progress monitoring, the current SROI exceeds the goal SROI).

  - **Never lower the goal! Change the intervention!**

Write a measurable progress monitoring goal.

Component	May include…	Examples
Condition	Material/Tool Grade level Setting Timing	When given 30 1st grade sight words…. When given 3rd grade reading passage..
Target Behavior	Observable behavior Target goal	Student will read 30 of 30 sight words… Student will read 60 words read correctly…
Level of Proficiency/ Timeline	Accuracy Timeline Number of trials	95% accuracy Three consecutive probes

Do you systematically write goals?

- *Sample structure:*

- When given **[grade level and tool],** Bryan will **[observable behavior and goal] [level of proficiency and timeframe].**

Data Collection and Entry

Frequency of Progress Monitoring

Number of assessments/15 weeks	Effect Size (SD)	Percentile Gain
0	0	0
1	.34	13.5
5	.53	20
10	.60	22.5
15	.66	24.5
20	.71	26
25	.78	28.5
30	.82	29

Bangert-Drowns, R. L., Kulik, J. A., & Kulik, C.-L. C. (1991). Effects of frequent classroom testing. Journal of Educational Research, 85, 89-99.

Similar results found by Fuchs & Fuchs (1986)

General Guidelines Based on Best Practices & Research

Progress Monitor (PM) Testing Frequency	**Probable strength of PM data's ability to reliably inform instruction and decision making				R-CBM Recommendation *(Other measures need only one probe per session.)*
	After 4 week period	**After 6 week period**	**After 8 week period**	**After 10+ week period**	
2x/week	**Good	**Excellent	**Excellent	**Excellent	1 probe
1x/week	** Fair	** Fair	**Good	**Excellent	1 probe
Every ~10 days	**Poor	**Poor	**Fair	**Good	1 probe
Every 2 weeks	**Poor	**Poor	**Poor	**Fair	1 probe
Every 3 weeks	Poor	**Poor	**Poor	**Poor	Median of 3 probes
Every 4+ weeks	Poor	Poor	**Poor	**Poor	Median of 3 probes

Collecting and Reviewing PM Data

- *Confirm the frequency and schedule of data collection*

➢ Minimum weekly for 10-12 weeks

- *Set the data review schedule*

➢ Necessary for determining need for intervention adaptations

➢ Minimum every 4-6 weeks

Progress Monitoring Process: Data-Based Decision Making

Collecting Data Is Great…

- But using data to make instructional decisions is the **most** important.

- Select a decision making rule and stick with it.

Trend Line, Slope, and ROI

- **Trend Line –** a line through the scores that visually represents the performance trend

- **Slope –** quantification of the trend line, or the rate of improvement (ROI)

- **Rate of Improvement (ROI)** - specifies the improvement, or average weekly increases, based on a line of best fit through the student's scores.

Is it Working? Interpreting Progress Monitoring

- Decision rules for PM graphs

Three – Four Point Rule

Trendline Analysis

Decision Rules Based on Four-Point Method

- If **three weeks** of instruction have occurred AND at least **six data points** have been collected, examine the four most recent data points.

  - POSITIVE: If all four are above goal line, increase goal.

  - POOR: If all four are below goal line, make an instructional change.

  - QUESTIONABLE: If the four data points are both above and below the goal line, keep collecting data until trend line rule or four- point rule can be applied.

Handout 5: Application of Four-Point Rule

- Graph the following data points for Jane and connect the data points:

  » Week 1 = Baseline 23 WRC

  » Week 2 = 24 WRC

  » Week 3 = 28 WRC

  » Week 4 = 28 WRC

  » Week 5 = 29 WRC (February)

  » Week 6 = 31 WRC

  » Week 7 = 32 WRC

Handout 5

Decision Rules Based on the Trend Line

- If **four weeks** of instruction have occurred AND at least **eight data points** have been collected, figure trend of current performance and compare to goal line.

- Calculate by hand or by computer.

Decision Rules Based on the Trend Line:

- POSITIVE: If the student's trend line is steeper than the goal line, the student's end-of-year performance goal needs to be increased (if goal is below benchmark).

- POOR: If the student's trend line is flatter than the goal line, the teacher needs to revise the instructional program and assess fidelity.

- QUESTIONABLE: If the student's trend line and goal line are the same, no changes need to be made or more data are needed.
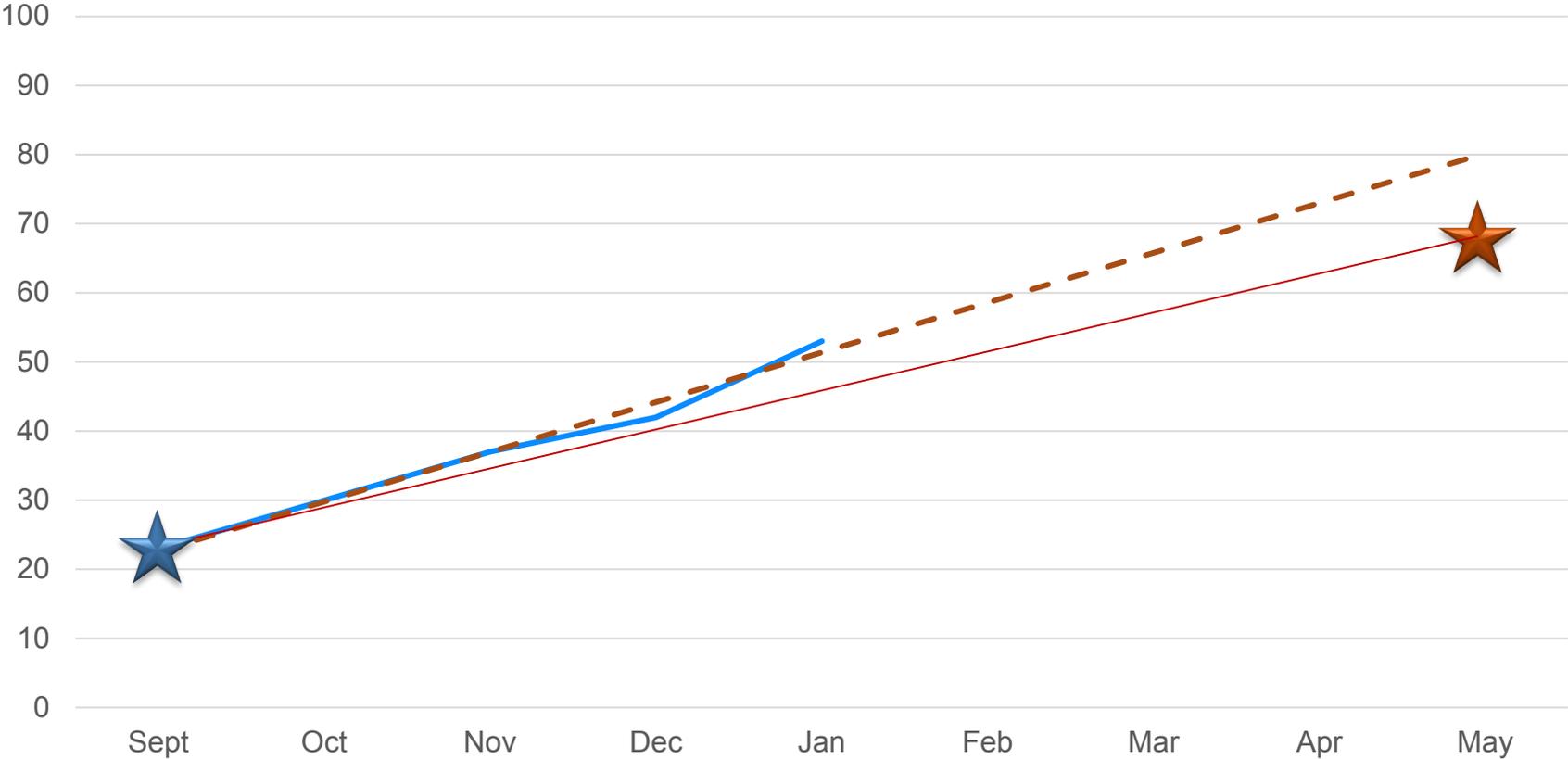
Application of Trend Line Analysis Rule

John – 2nd Grade: Reading Connected Text
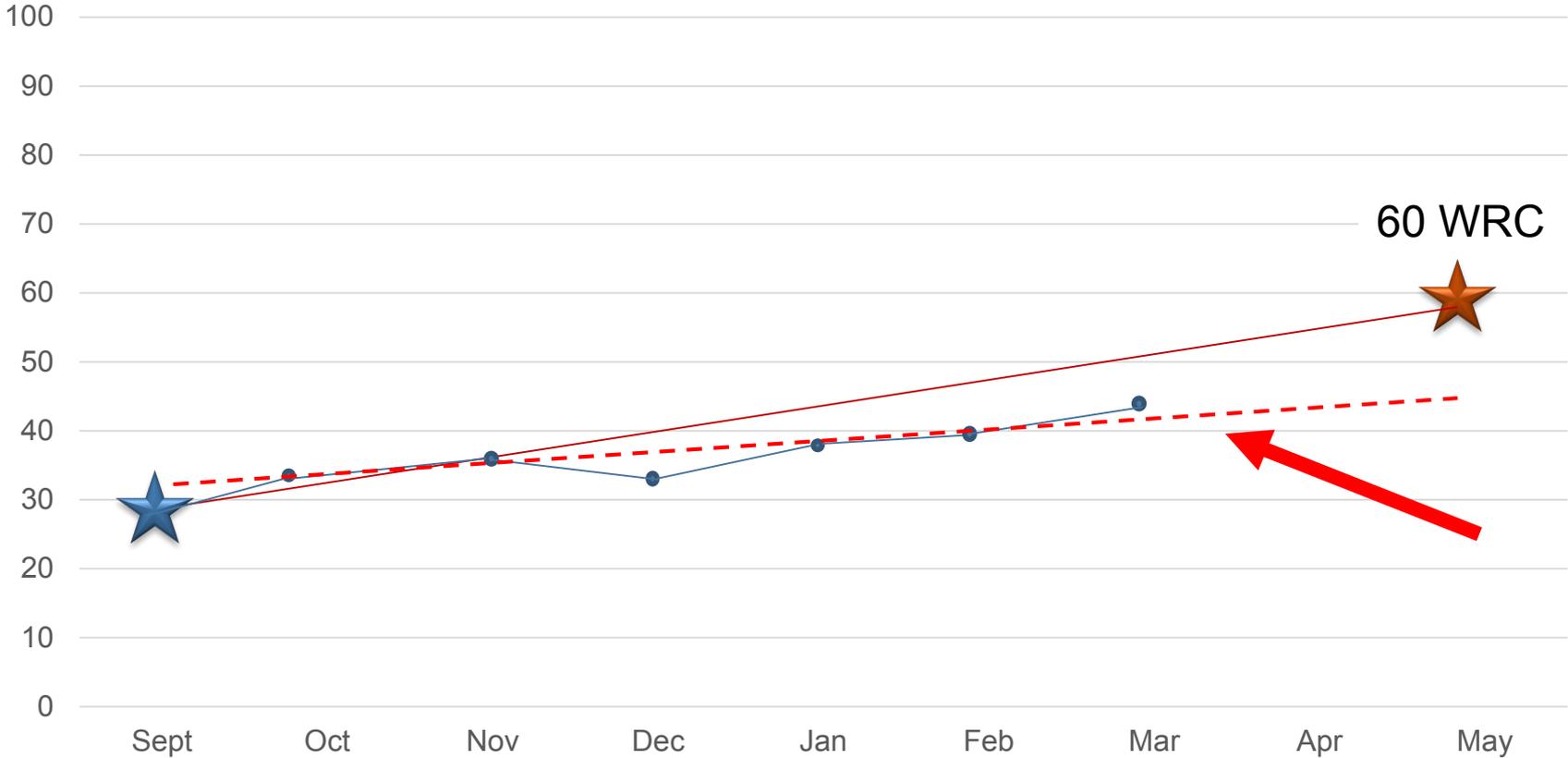
Application of Trend Line Analysis Rule
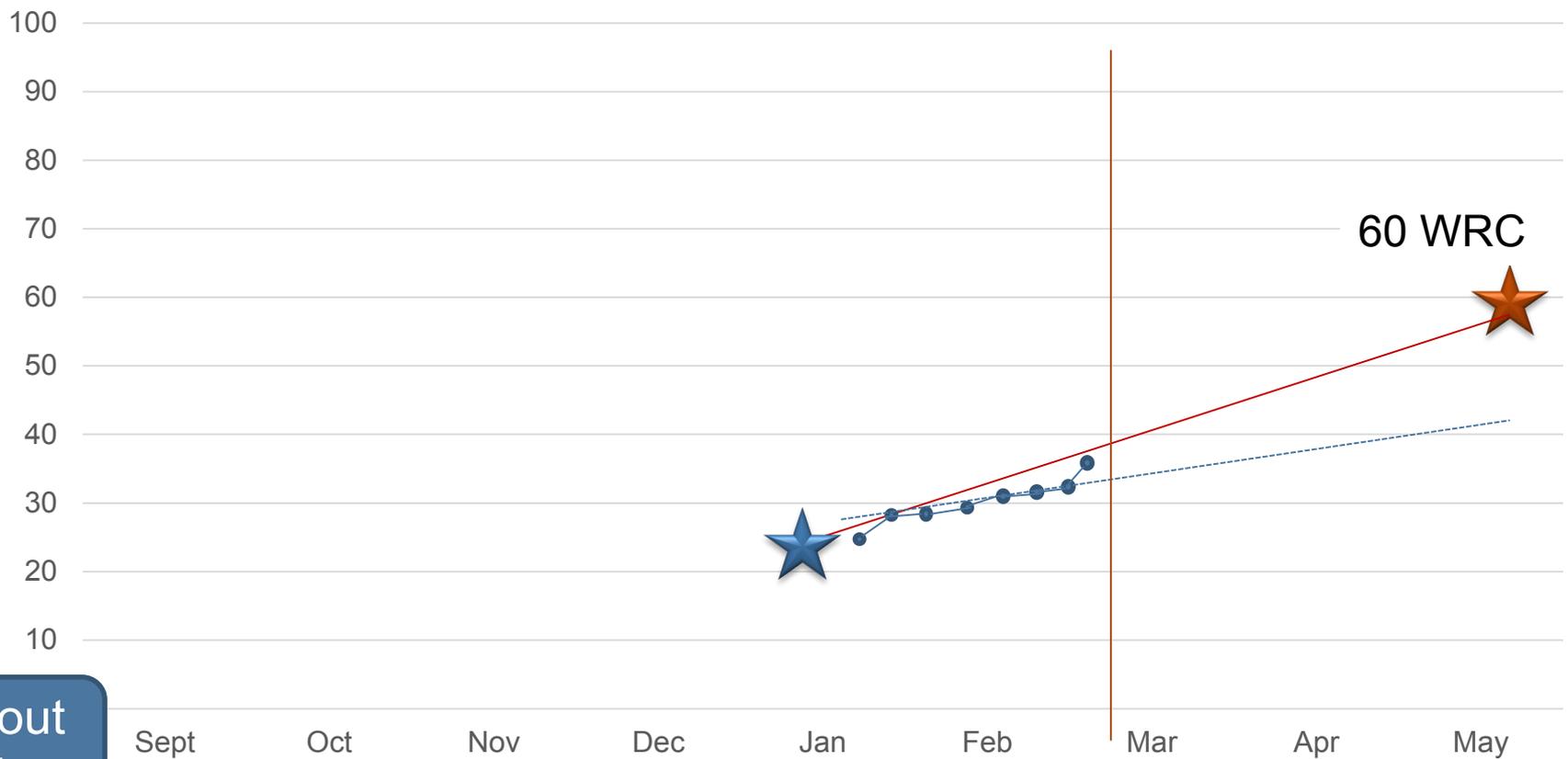
Terry – 4th Grade: Reading Connected Text

Handout 5: Application of Four-Point Rule

- Graph the two additional data points for Jane and connect the data points:
  - » Week 2 = 24 WRC
  - » Week 3 = 28 WRC
  - » Week 4 = 28 WRC
  - » Week 5 = 29 WRC (February)
  - » Week 6 = 31 WRC
  - » Week 7 = 32 WRC
  - » Week 8 = 33 WRC
  - » Week 9 = 36 WRC

Handout 5

Handout 5: Application of Trend Analysis Rules
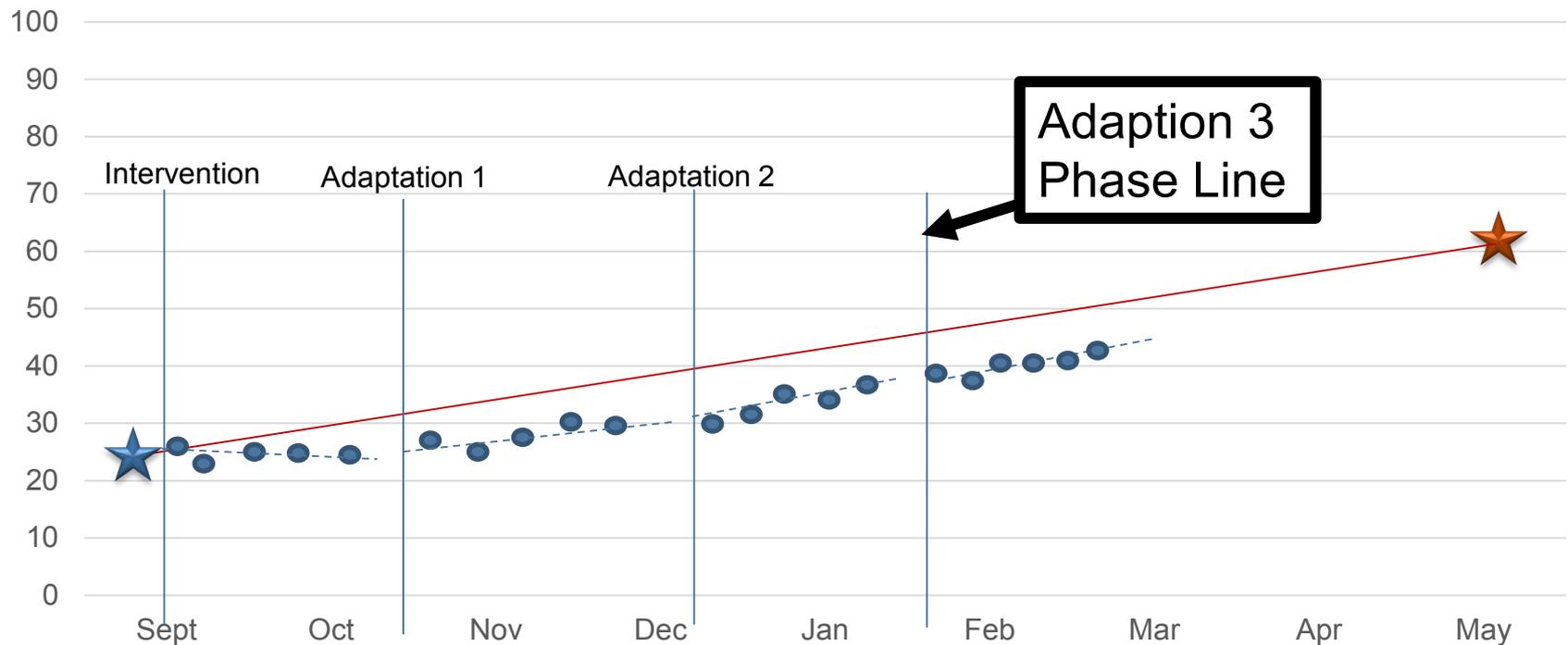
Jane – 1st Grade: Reading Connected Text

60 WRC

Handout 5.5

Monitoring Effects of Adaptations

2nd Grade: Passage Reading Fluency

Decision Rules Summary

Three – Four Point Rule

----

easy to implement, but not as sensitive

Trend Line Analysis

----

more sensitive to changes, but requires calculation to obtain

Closing

Things to Remember

✓ Progress monitoring tools vary by grade, domain, and outcome of interest.

✓ To ensure fidelity to the PM process, establish written procedures for identifying students, goal setting, collecting data, and decision making.

✓ Very frequent progress monitoring for intensive intervention (weekly)—relatively few students should need it (3 percent to 5 percent of the school population).

Next Steps

- Establish teams of educators to review data and problem solve around non-responders.

- Practice setting goals and interpreting progress monitoring graphs.

- Establish written PM plans for students that are feasible and matched to student needs.

Thank You!

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National Center on Intensive Intervention (NCII)

National Center on Systemic Improvement (NCSI)

CEEDAR Center | *Educator Preparation*

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Disclaimer

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