Learning Support Data:

Individual Students

A GUIDE TO

INTERVENTION PROGRESS MONITORING BASICS

Dr. Weston Johnson
Principal Learning Coach

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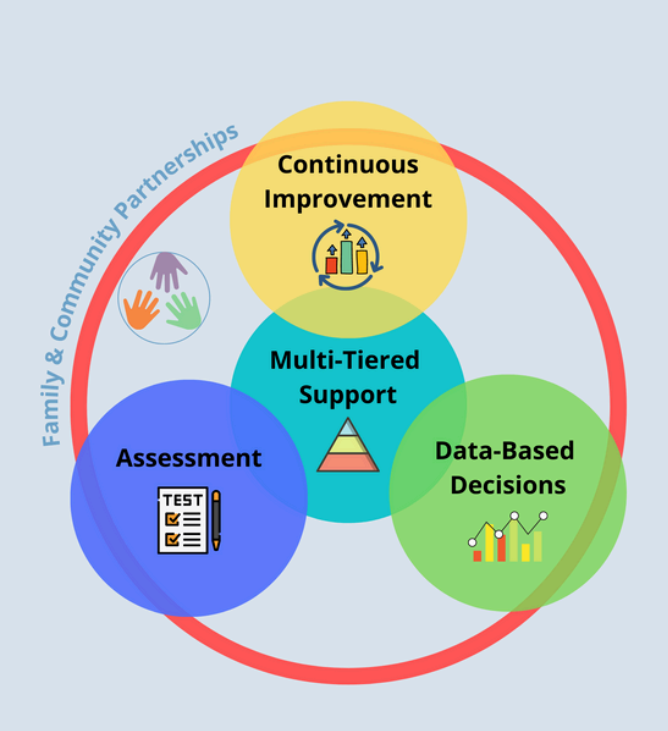
WHAT IS
INTERVENTION PROGRESS MONITORING

Intervention progress monitoring is a component of a multi-tiered system of support. This type of progress monitoring is the ongoing and frequent monitoring of student progress during an intervention. It measures the rate of improvement to inform data-based decisions, and these decisions use team-based problem-solving to define problems, analyze root causes, design interventions, and improve results.

Here are a few specific criteria:

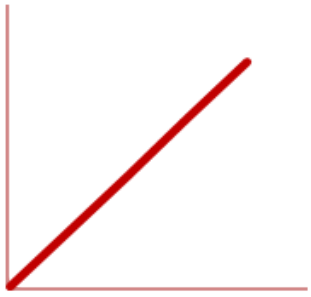
- ***Academic Measure Criteria***
  - Alternative forms of equal or controlled difficulty.
  - Defined growth rates, including minimum acceptable levels.
  - Established end-of-year benchmark targets.
  - Provided reliable and valid information.
- ***Academic Process Criteria***
  - Monitoring occurs at least monthly for Tier 2 and weekly for Tier 3 (w/ consideration of the measure).
  - Implementation fidelity is ensured:
    - appropriate students tested,
    - Scores are accurate, and
    - decision-making rules are applied.
- ***Instructional Decision-Making Process Criteria***
  - Procedures are data-driven based on valid methods.
  - Procedures involve a broad base of stakeholders.
  - Procedures are operationalized with clear, established decision rules.
- ***Responsiveness to Intervention Criteria***
  - Decisions are made based on reliable and valid data that reflect rate of improvement or progress toward goals.
  - Decisions are made based on data from intervention implementation fidelity.



RELIABILITY AND STATIC

While monitoring student progress, teachers will observe static on a student's graph. This is because progress monitoring measures do not have perfect reliability.

Progress monitoring measures should have a correlation coefficient of at least .70 for progress monitoring.



1.00

.70

(Salvia, Ysseldyke, & Bolt, 2013)

GENERAL ASSESSMENT TERMS

Measurement. A process of ***applying numbers systematically*** to quantifiable characteristics.

Assessment. A process of ***collecting information*** about quantifiable and qualitative characteristics.

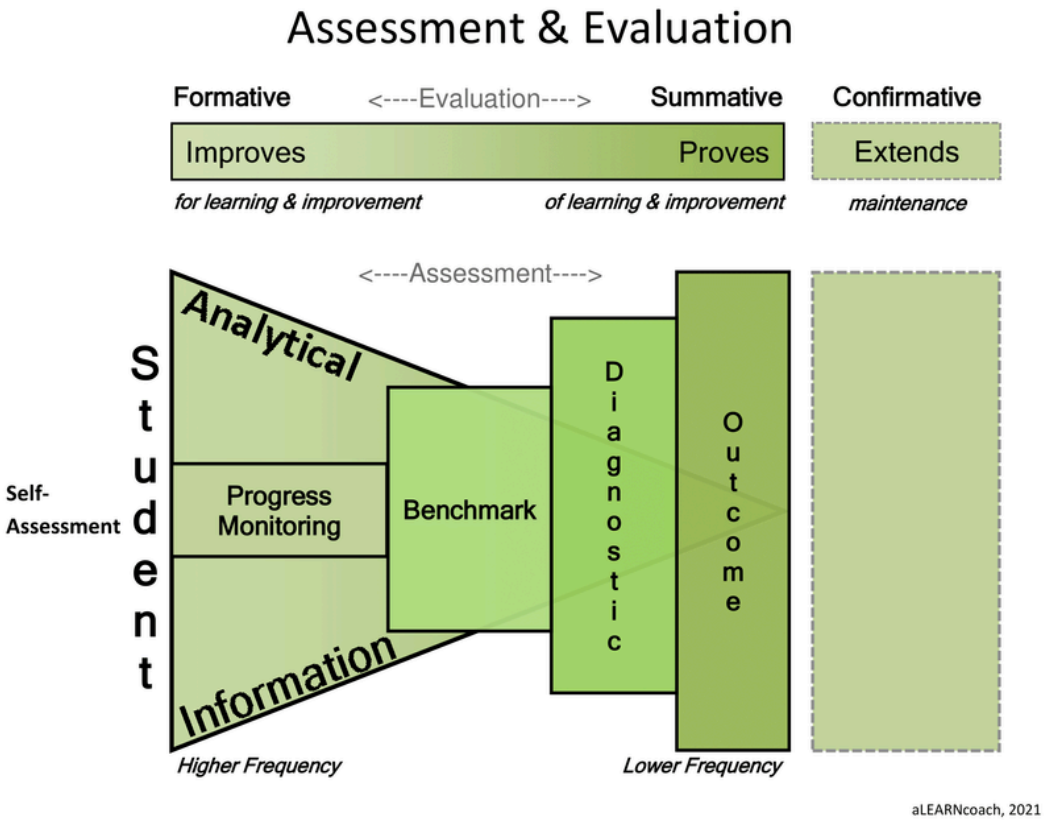
Evaluation. A process of using information collected through ***assessment to make judgements based on criteria or standards.***

EVALUATION TYPES

Formative Evaluation for Student Learning
Judgements about improving learning support.

Summative Evaluation of Student Learning
Judgements about proving what learning occurred.

Confirmative Evaluation from Student Learning
Judgements about the validity of decisions/conclusions over time.



ASSESSMENT TYPES

Outcome Assessment

The purpose is to determine whether goals were met.

Diagnostic Assessment

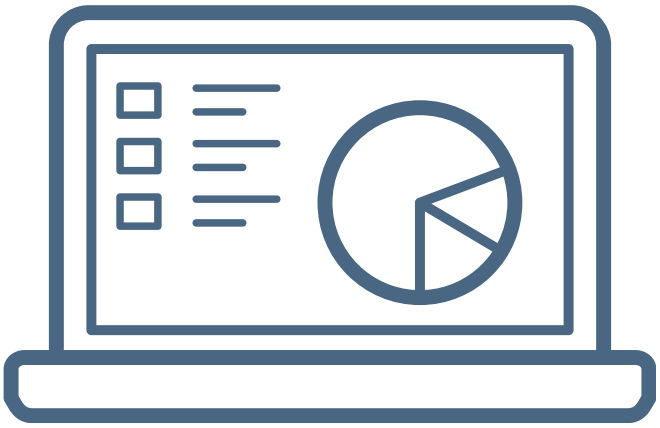
The purpose is to determine specific causes for current growth and achievement levels.

Benchmark Assessment

The purposes is to compare student performance against an indicator.

Progress Monitoring Assessment

The purpose is to monitor student growth over time.



JUMPING INTO PROGRESS MONITORING

There are two broad types of progress monitoring measures.

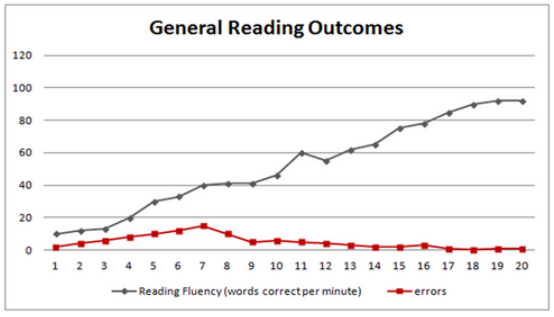
General Outcome Measures (GOMs)

- Use measures that are typically standardized (CBMs and CATs).
- Focus on overall outcomes and long-term goals using key indicators.
- Measure multiple skills or sets of knowledge.
- Benchmark targets are correlated to desired broad outcomes.

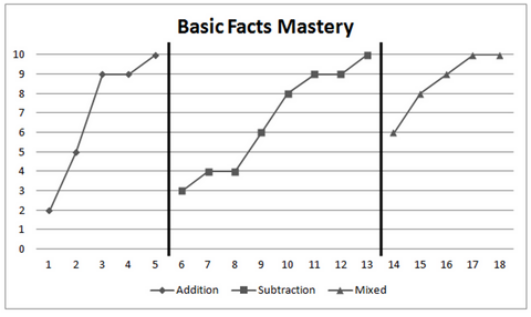
Mastery Measures (MMs) OR Subskill Mastery Measures (SMMs)

- Use informal strategies or instructional program assessments.
- Focus on short-term goals aligned to instructional activities.
- Mastery targets are based on specified standards and criteria.
- Measure specific skills or sets of knowledge.

General Outcome Measurement



Mastery Measurement



A GOM tends to be the main measure to determine progress in an intervention. There are two common subtypes of GOMs used for intervention progress monitoring.

Curriculum-Based Measures (CBMs)

- Extensively researched and widely used.
- Key indicators:
  - Timed (fluency/rate): reading, math automaticity, written expression
  - Open-Ended (accuracy): spelling, concepts of print, word segmenting
- Available for frequent progress monitoring.

Computer Adaptive Tests (CATs)

- Assesses a sampling of skills and knowledge.
- Adjusts item administration based on student responses and difficulty of items.
- Not typically available for frequent progress monitoring.

Multiple Sources of Information

It's not CBM vs. CAT, GOM vs. MM, OR only test, test, test.

Quality data-based decisions require multiple sources of information.

GOM CHARACTERISTICS

INTERVENTION PROGRESS MONITORING

Standardized

Standardized measures ensure that academic performance can be compared across different contexts, settings, and populations. By using consistent assessment tools, it becomes possible to identify variations in reading abilities and track progress over time. Furthermore, this allows for meaningful comparisons and draw reliable conclusions academic performance.

Repeatable

Testing with general outcome measurements is intended to be simple and quick. Also, multiple alternative test forms of equal difficulty allow for them to be administered frequently so data can be collected and graphed to review growth over time.

Reliable and Valid

Reliable measures produce consistent scores. Valid measures allow for accurate interpretations, and the use of general outcome measures allows for external validation which contrasts the use of measures provided by the instructional programs being used. Overall academic proficiency may be inflated when assessed using measures provided by instructional programs.

PURPOSE OF INTERVENTION PROGRESS MONITORING

Student Progress

Frequent progress monitoring will show whether students are achieving expected/desired growth with the planned intervention.

Instructional Change

When expected/desired growth isn't attained, teachers can adjust or change their interventions.

Eligibility

Determining a student's response to intervention based on progress monitoring data can be used to determine special education eligibility.

Monitoring student progress in interventions is crucial as it enables educators to assess intervention effectiveness, make data-driven decisions, identify students in need of additional support, provide timely feedback, personalize instruction, track growth, and ensure meaningful progress towards learning goals.

CBM LIMITATIONS FOR **INTERVENTION PROGRESS MONITORING**

Limited Content Coverage

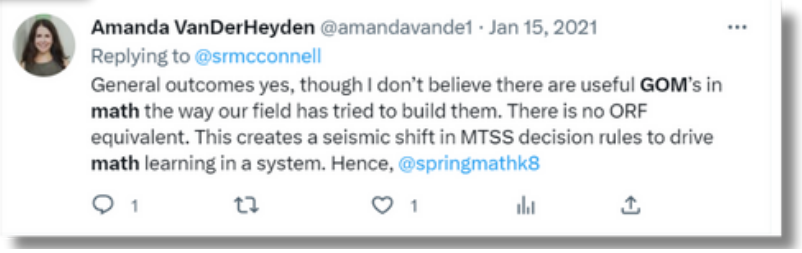
CBMs typically sample a subset of content from a curriculum. They may not capture the full range of a student's abilities or provide a comprehensive assessment of progress.

Overemphasis on Speed

CBMs may lead to an overemphasis on fast performance and a misalignment of instruction. Also, over practicing specific tasks can result in inflated scores.

Challenges with Higher Complexity

CBMs have limited application to goals with higher complexity, including deeper analysis, synthesis, and application. Typically, reduced alignment in higher grades. See a couple comments below from educational experts regarding the challenges with math GOMs.



PROGRESS MONITORING TERMS

Goal. The target score aimed at for learning growth.

Probe Level. The level used for progress monitoring.

Start Score. The first data point on the goal line.

Weekly Gain (for Goal Setting). This is weekly growth or rate of improvement needed to meet the goal.

Goal Line. The line on a progress monitoring graph that visualizes the rate of growth needed to achieve the goal.

Trend Line. The observed rate of growth for a student.

Intervention Line. A vertical line on the progress monitoring graph that shows a change to instructional plans.

Continued›

Criterion-Referenced Goal. *A target that sets a predetermined standard of performance (e.g., a benchmark level predictive of student success).*

Norm-Referenced Goal. *A target that sets a normative expectation compared to grade-level peers (class, school, district, nat'l).*

Rate of Improvement (ROI) Goal. *A target based on a growth rate to close achievement gaps.*

SETTING UP
INTERVENTION PROGRESS MONITORING

There are various types of progress monitoring measures. Both reading and math have a few common measures typically used to monitoring progress during interventions. They, however, vary by grade level, task, and frequency of administration.

READING MEASURES

GRADE K

Letter Sound Fluency

Students are expected to accurately and fluently recognize the most common letter-sound correspondences.

Frequency: Weekly

GRADE K

Nonsense Word Fluency

Students decode CVC pseudowords *Recommended until students can read connected text.

Frequency: Weekly

GRADES 1-12

Reading Fluency

Students accurately and fluently read a connected text passage.

Frequency: Weekly (reduced frequency in older grades)

Additional: Consider supplementing with reading fluency probes with comprehension questions.

MATH MEASURES

GRADE K

Number Identification

Students are expected to accurately and fluently recognize numbers.

Frequency: Weekly

GRADE 1

Decomposing

Students accurately and fluently identify part-whole relationships of numbers (i.e., take apart numbers).

Frequency: Weekly

GRADES 1-3

Basic Fact Automaticity

Students accurately and fluently complete math facts.

Frequency: Weekly

GRADES 2-12

Concepts and Application

Students complete items that require application of math concepts.

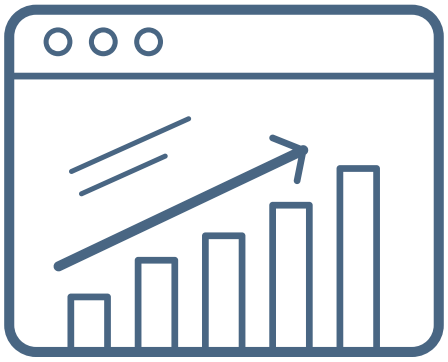
Frequency: Every 2 to 4 weeks

Additional: Consider supplementing with basic fact automaticity data.

PROGRESS MONITORING PLAN SETUP

The following is the basic process for setting up a progress monitoring plan.

1. **Collect Baseline Data and Present Level**
2. **Create Progress Monitoring Plan**
    a. **Select PM assessment**
    b. **Select who will monitor progress**
    c. **Set PM timeline and frequency of testing**
    d. **Set goal level**
3. **Plan Intervention Support to Achieve Goal**



Goal Template

By (goal date), when (condition) occurs, (learner) will (behavior) to a (criterion).

By May 2023, when given a third grade CBM-Reading probe, Johnny will read 90 words correct per minute with at least 95% accuracy.

If desired, a "from (baseline) to (criterion)" statement can be added based on present level.

GOAL SETTING
CRITERION-REFERENCED GOALS

Criterion-Referenced

A target that sets a predetermined standard of performance.

- Low Risk
- Some Risk
- High Risk

General education students should be monitored on grade-level, but it may be supplemented with instructional level monitoring.

Uses

Default intervention goals to track progress toward grade-level expectations.

Most efficient goal-setting approach for general education students, but goals may be too high for individualized education plan goals.

How To Set Goals

Determine grade-level benchmark targets.

1. Identify students receiving intervention services.
2. Set progress monitoring goal for grade level benchmark expectations.

GOAL SETTING
NORM-REFERENCED GOALS

Norm-Referenced

A target that sets a normative expectation.

- Class, grade, district, national* peers.
- Percentile ranks.
- Consider normal distribution.

*National percentiles are often used to establish criterion-referenced targets.

Uses

Goals are set with consideration of normal achievement levels.

Goals are set for what is considered normal based on certain percentiles, but these goals do not necessarily match grade-level achievement expectations or set sufficient growth expectations.

How To Set Goals

Determine normal achievement levels.

1. Identify students receiving intervention services.
2. Set progress monitoring goal for the desired normal achievement levels.

GOAL SETTING
RATE OF IMPROVEMENT GOALS

Rate of Improvement

A target that sets a growth rate to close achievement gaps.

- Rates based on aggregated weekly growth rates.
- Growth rates higher than peers.

Uses

Goals are set at a rate to "catch up" to peers.

Goals are set for an ambitious pace to close achievement gaps. Ambitious yet achievable ROI goals typically use the **75th-90th percentile** aggregated weekly growth rates but be cautious that ROI goals aren't set at rates impossible to achieve.

How To Set Goals

Determine ambitious growth rates.

1. Identify students receiving intervention services.
2. Set progress monitoring goal using the following formula with desire weekly ROI:

ROI x # Weeks + Baseline = Goal

School year # of weeks is typically 34-36.

GOAL SETTING
SPECIAL EDUCATION CONSIDERATIONS

Survey Level

Used for off-grade* level placement.

1. Begin on grade-level.
2. Test successively lower grade-level probes until achievement is between approx. 15th-25th %ile for a fall testing period.

*Only about 2-5% of students truly need it.

Off-Grade SPED Goal

1.5-2 years growth Using alternative ROI method.

- Use **50th percentile** aggregated weekly growth rates for ROI and multiple by 1.5 or 2 (years of growth).
- Set progress monitoring goal using the following formula with desire weekly ROI:

(ROI x 1.5 or 2) x # Weeks + Baseline = Goal

On-Grade SPED Goal

Set average academic achievement goals.

1. Determine on-grade monitoring is appropriate using end of IEP timeline grade level.
2. Set goals for the 15th-25th %ile.

Note 1: When using on-grade level probes, student baseline may be as low as 10th%ile (or slightly lower).

Note 2: For IEPs extending into the next school year, set goals at the next grade level and objectives progressing across the grade levels.

FINDING THE ROI

	Aggregate Weekly Growth		
%	Fall-Winter	Winter-Spring	Fall-Spring
95th	2.91	2.56	2.23
90th	2.53	2.21	1.99
85th	2.31	1.98	1.84
80th	2.14	1.79	1.73
75th	1.99	1.64	1.63
70th	1.86	1.50	1.55
65th	1.75	1.38	1.47
60th	1.63	1.27	1.40
55th	1.53	1.17	1.33
50th	1.42	1.07	1.27
45th	1.31	0.97	1.20
40th	1.20	0.86	1.12
35th	1.10	0.76	1.05
30th	0.97	0.65	0.98
25th	0.84	0.53	0.90
20th	0.70	0.39	0.80
15th	0.52	0.23	0.67
10th	0.33	0.06	0.52
5th	0.08	-0.24	0.31
M	0.20	0.16	0.18
SD	0.13	0.13	0.08
N	7111	7326	7105

Norm-Referenced Example

Alternative SPED Example

STUDENT
PROGRESS MONITORING DATA

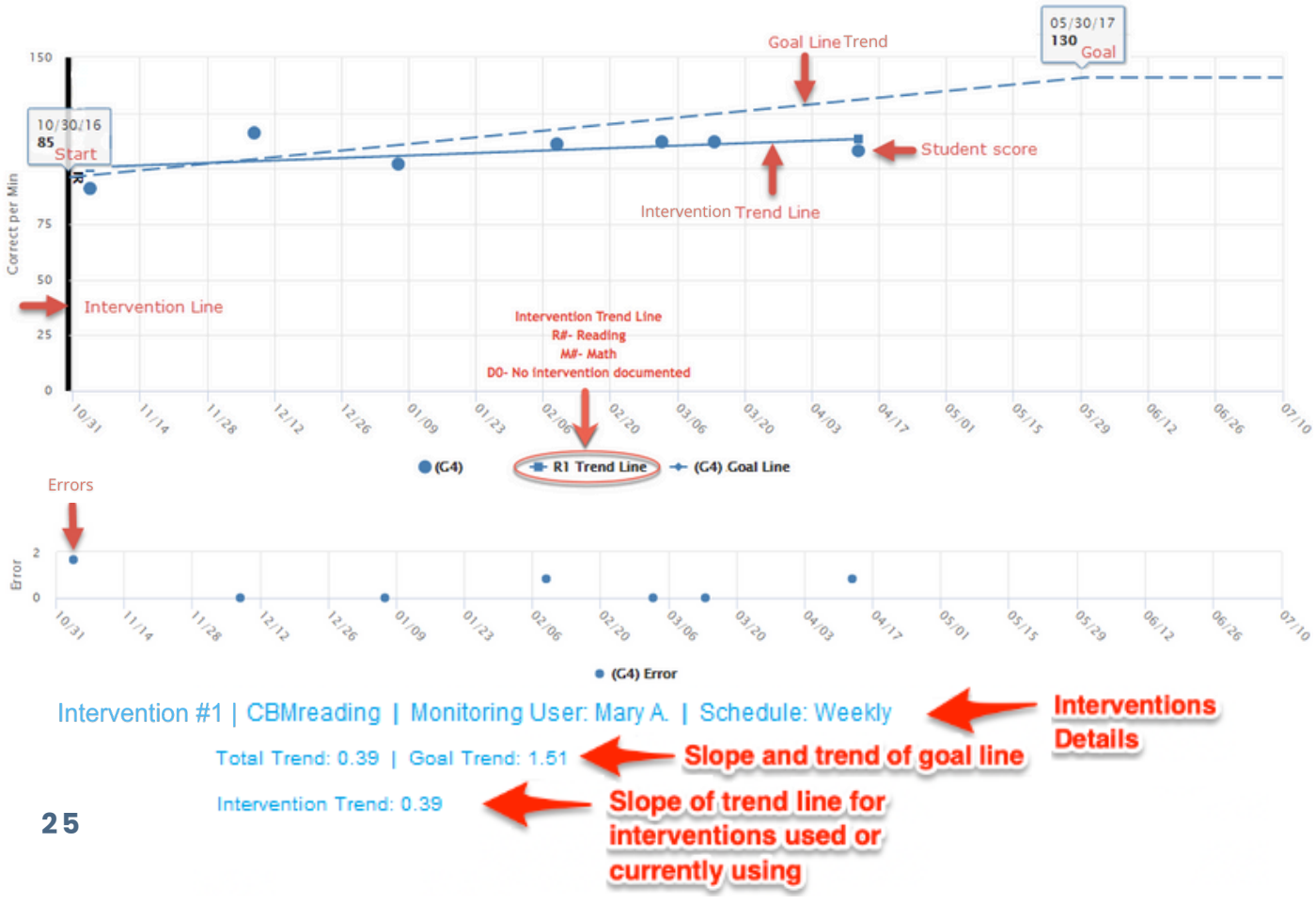
Keeping track of student progress is important to determine whether interventions are effective. Progress monitoring data helps teachers understand if the interventions are working and students are improving. Teachers use this information to make decisions about how to support students learning.

SIGNAL OR STATIC

Validity concerns exist when variability is too high. As a general rule, recent data points should be within +/- 10% of each other.

- Check fidelity of administration
- Check administration bias
- Check student motivation (can't vs won't)
- Consider multiple data points
  - Consecutive data points
  - Median of three data points
- Increase data collection frequency
- Review supplemental data
- View overall trend

PM GRAPH ELEMENTS



INTERVENTION DECISION RULES

Achievement Level - Considers student achievement level.

Consecutive Data Points - Considers 3-5 consecutive data points in relation to goal line and goal.

Rate of Improvement - Considers current trend (requires about 8-12 data points).

POSITIVE RESPONSE

Actions:

- **Continue** intervention until current goal is achieved.
- Consider need to increase goal.
- Consider **fading** or **exiting** intervention for less intensive support.

Considerations:

- **Achievement Level** - Level of student risk decreases over time or student meets normative-referenced or criterion-referenced targets.
- **Consecutive Data Points** - Consecutive data points are above the goal line with 2 above the next season's benchmark target.
- **Rate of Improvement** - Current intervention trend shows that the goal level will be met during current monitoring timeline (i.e., intervention trend is at/above goal line trend).

Don't forget to check accuracy levels.

Accuracy should decrease toward or stay at desired levels as rate increases.

Continued>

QUESTIONABLE RESPONSE

Actions:

- Improve Tier 1 support and alignment.
- Check intervention fidelity.
- **Adjust** intervention if rate doesn't improve.

Considerations:

- **Achievement Level** - Level of student risk remains the same over time.
- **Consecutive Data Points** - Data points are plateaued above or around the goal line while remaining below next season's benchmark target.
- **Rate of Improvement** - Current intervention trend shows that the intervention trend at or above minimum rate of improvement but below goal trend.

POOR RESPONSE

Actions:

- Improve Tier 1 support and alignment.
- Check intervention fidelity.
- **Adjust** intervention and evaluate impact or **change** intervention.

Considerations:

- **Achievement Level** - Level of student risk increases over time.
- **Consecutive Data Points** - Consecutive data points are below goal line.
- **Rate of Improvement** - Current intervention trend is below minimum rate of improvement.

Simple Minimum ROI Formula Using Grade-Level Benchmarks

(Spring Benchmark - Fall Benchmark) / # Instructional Weeks

= Minimum ROI

COMMON PROBLEM HYPOTHESES

- **Students don't want to do it.** Provide more motivational incentives.
- **Students haven't spent enough time doing it.** Provide additional practice.
- **Students haven't had enough help to do it.** Provide additional guidance.
- **Students haven't had to do it that way before.** Provide additional opportunities to generalize.
- **It's too hard.** Provide prerequisite instruction.

Daly et al., 1997

INSTRUCTIONAL HIERARCHY

The instructional hierarchy provides a stage-based progress of learning that can be used for making intervention adjustments and changes.

1. ACQUISITION

- Explicit instruction w/ guided practice
- Teacher modeling
- Immediate corrective feedback

2. FLUENCY

- Frequent practice/review
- Drill, timed, or connected practice/review
- Delayed or intermittent corrective feedback

3. GENERALIZATION

- Provide additional information
- Discriminate between examples and non-examples
- Differentiate or fine tune minor evolutions
- Practice in varied contexts with varying tasks

4. ADAPTATION

- Exposure to unique and unexpected problems
- Provide problem-solving strategies to overcome challenges

+ MAINTENANCE

- Increased dosage
- Massed review (i.e., over learning)
- Spaced/distributed review

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