MTSS & The 4-Step Problem Solving Process

Summit on School Climate and Culture

August 8th 2016

Judy Elliott, Ph.D.
Former Chief Academic Officer
Los Angeles Unified School District
jelliott@4edulead.com



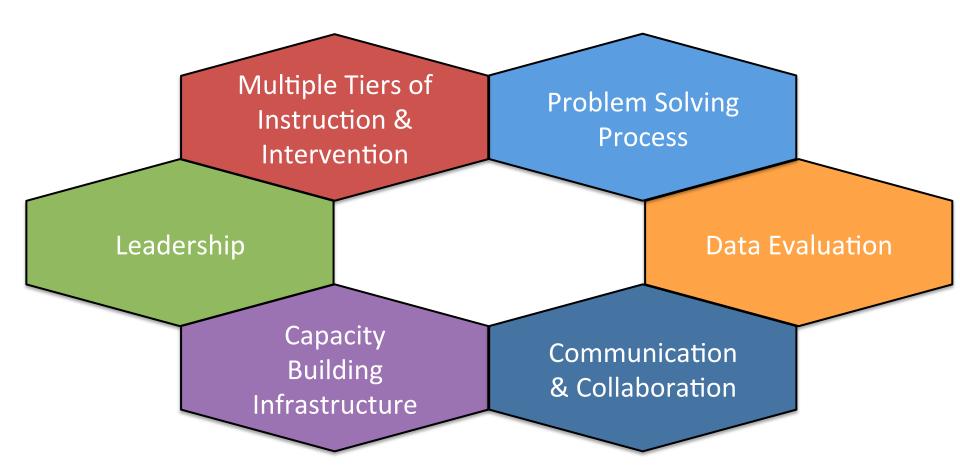
Explore the 4 - Step Problem Solving process as a critical backbone of MTSS

The single greatest determinant of learning is not socioeconomic factors or funding levels is **instruction**.



A bone-deep, institutional acknowledgement of this fact continues to elude us.

Critical Components of MTSS



<u>MTSS</u> is a framework to ensure successful education outcomes for ALL students by using a databased problem solving process to provide, and evaluate the effectiveness of multiple tiers of integrated academic, behavior, and social-emotional instruction/intervention supports matched to student need in alignment with educational standards.

MTSS & the Problem-Solving Process Academic and Behavior Systems

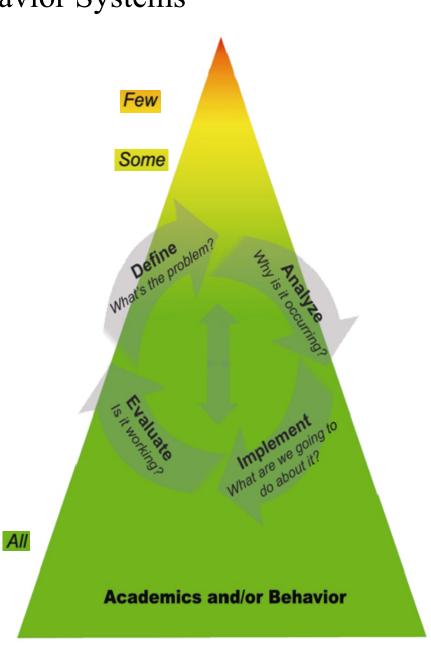
Tier 3: Intensive, Individualized Interventions & Supports.

The most intense (increased time, narrowed focus, reduced group size) instruction and intervention based upon individual student need provided in addition to and aligned with Tier 1 & 2 academic and behavior instruction and supports.

Tier 2: Targeted, Supplemental Interventions & Supports.

More targeted instruction/intervention and supplemental support in addition to and aligned with the core academic and behavior curriculum.

Tier 1: Core, Universal Instruction & Supports. General academic and behavior instruction and support provided to all students in all settings.



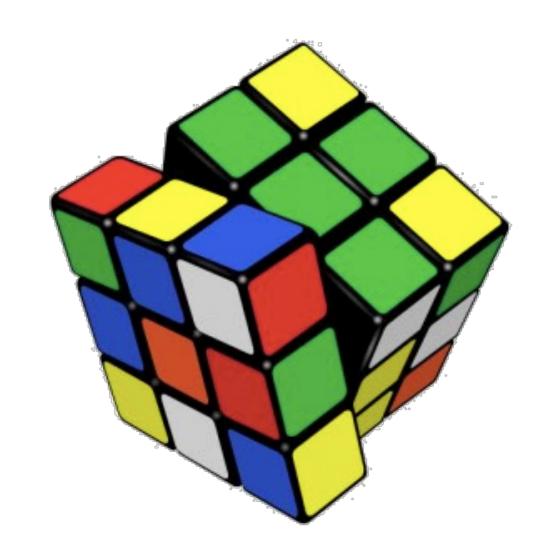
Problem-Solving is the Engine That Drives Instruction and Intervention

It is the MOST

Critical Skill

A Leader Can

Possess



K. Leithwood, 2007

Problem Solving Process:

Levels of Implementation				
Level of Implementation	Problem Solving Team	Example		
Student	Individual Teacher and/or Teacher Teams	Student is continually absent from class		
Classroom	Individual Teacher and/or Teacher Teams	A large number of students in one classroom failed the unit test		
Grade/Department Level	Teacher Teams and/or Instructional Leadership	A majority of students in grade 9 Algebra did not perform well on		

Instructional Leadership Team **District Senior Leadership**

Team

Team

School Level

District Level

the mid-year assessment Low overall percentage of students meeting growth targets Increase in expulsions across schools

Problem Solving Process

Define the Problem. Identify the goal

•What do we want students to know and be able to do?

Evaluate
Did it work?
•Response to
Instruction &
Intervention



Problem Analysis Why is the goal *not*being attained?

- Validating Problem
- •Identify Variables that contribute to Problem
- •Hypotheses/Data Collection

Implement Plan

What are we going to do about it?

- Implement as Intended
- Progress Monitor
- Modify as Necessary

Steps in the Problem-Solving Process

1. Define the Problem (What is the Goal?)

• Determine the gap or difference between the expectation and what is actually occurring in terms of student performance or behavior

2. Problem Analysis (Why is it occurring)?

- Hypothesize possible root causes
- Analyze supplemental data to support or refute each hypothesis
- Validate whether your hypothesis is true based on the additional data

3. Implement Plan (What can be done to solve it?)

- Select the intervention(s) or strategies that will address the problem
- Develop and implement the plan with fidelity

4. Evaluate (Did it work?)

- Collect and use school-wide, small group, and individual student data to determine if the plan is working to address the problem
- Progress monitor and modify, if necessary
- Evaluate the response: good,
- ⁹ questionable, poor

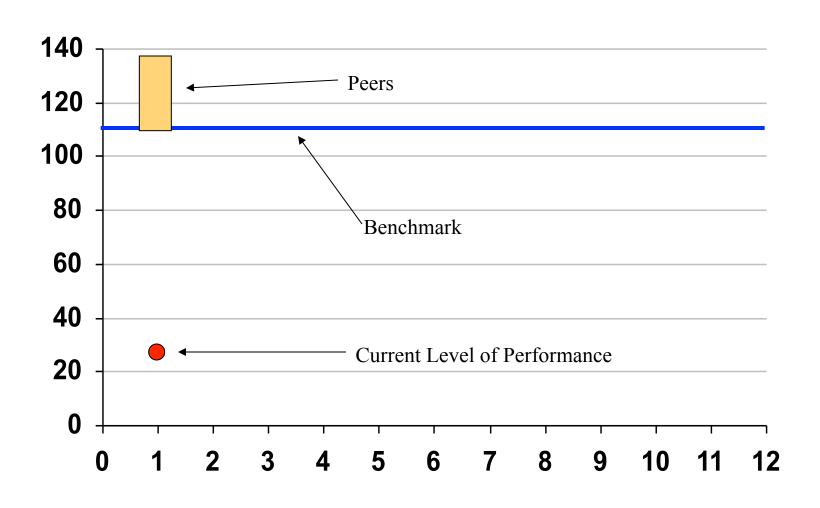
Steps in the Problem-Solving Process

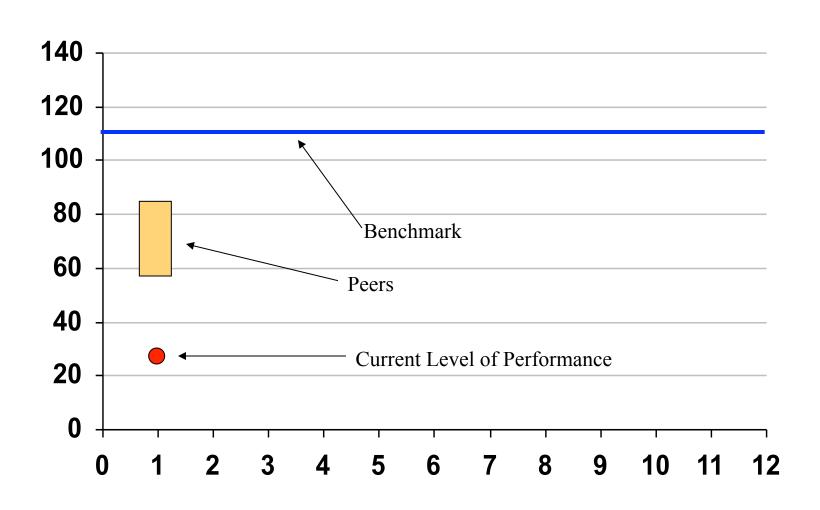
1. Goal Identification

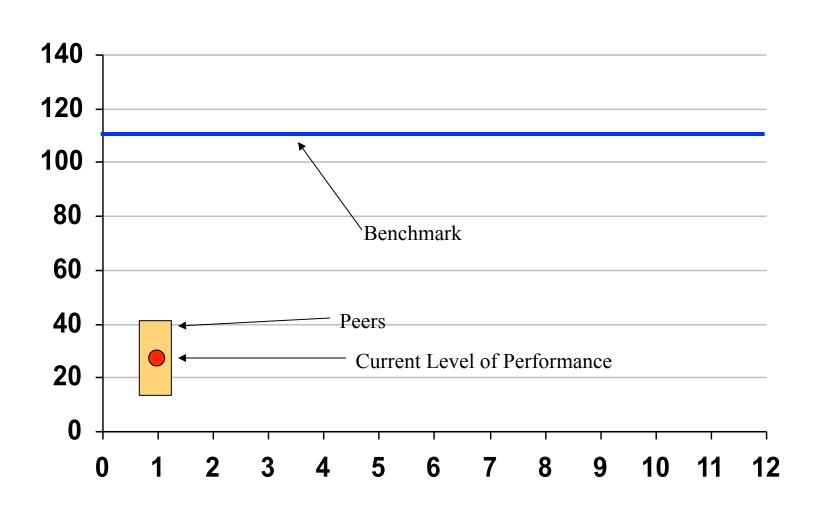
- Identify replacement behavior
- Data- current level of performance
- Data- benchmark level(s)
- Data- peer performance
- -Data- GAP analysis

2. Analysis

- Develop hypotheses (brainstorming)
- Develop predictions/assessment





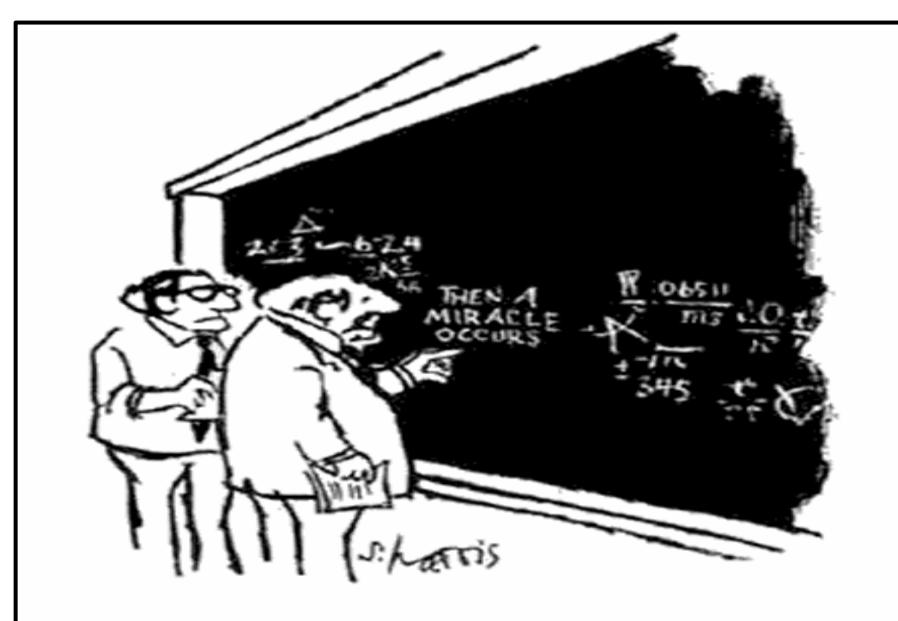




Step 2 Problem Analysis (Why is it occurring?)

- Develop root cause hypotheses

- Using data validate or invalidate hypotheses



"I THINK YOU SHOULD BE MORE EXPLICIT HERE IN STEP TWO."

Developing a Hypothesis involves...

- **Answering**: Why isn't the goal being attained?
- Identifying possible root causes
- Analyzing and validating supplemental data to support or refute each hypothesis

Developing a Hypothesis

Developing informed statements about <u>why</u> the desired behavior(s) are not occurring.

Example:

The (desired behavior) is not occurring because...

39% of students are not passing Math I because...



Instruction

(strategies, pacing, etc.)

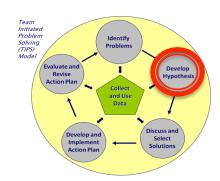
Curriculum

(order, materials, etc.)

Environment

(schedule, group size, culture, etc.)

Learner



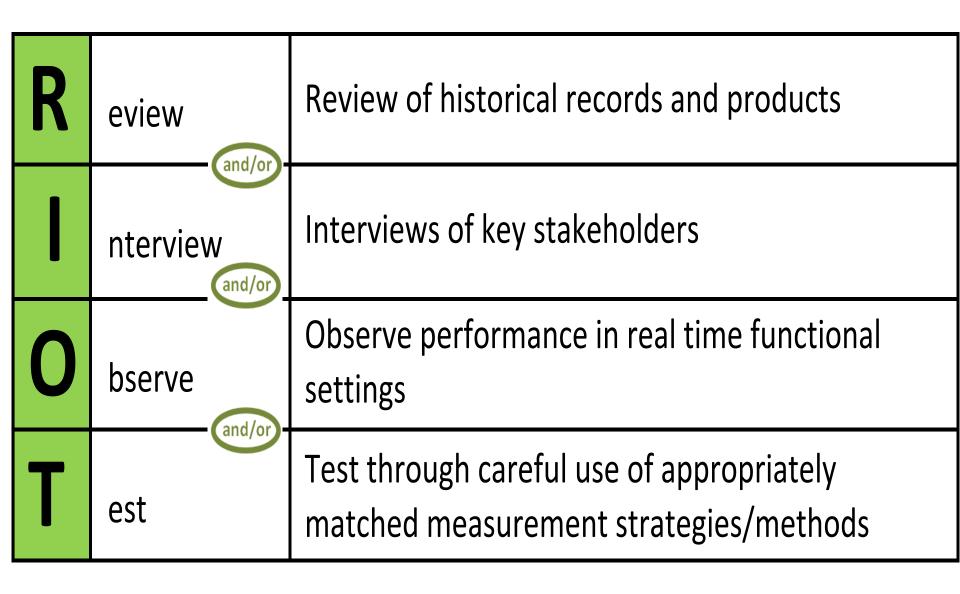


Testing Hypotheses using...

ICEL by RIOT Matrix

	Key Domains of Learning				
	Instruction	Instruction is how the curriculum is taught.			
C	Curriculum	Curriculum refers to what is taught.			
E	Environment	The environment is <u>where</u> the instruction takes place.			
L	Learner	The learner is <u>who</u> is being taught.			

Test and Validate Hypotheses



Problem-Solving using the ICEL/RIOT Matrix

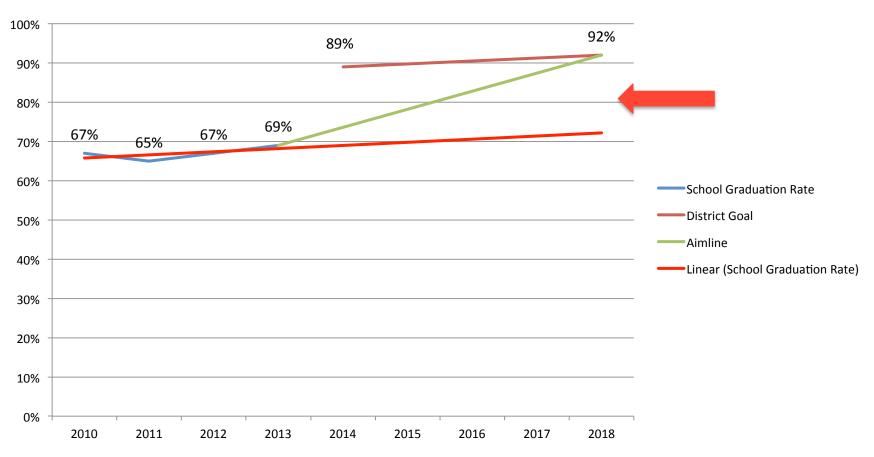
Domain	Variables	Review	Interview	Observe	Test
Instruction is how curriculum is taught. How content is presented to students can vary in many different ways: Level of Instruction Rate of Instruction Presentation of Instruction Is the curriculum being differentiated to meet the needs of the learners? Consider: instructional techniques presentation style clarity of instruction questioning feedback technique cooperative learning use of graphic organizers instructional conversations development of academic language/ vocabulary	Group/System Instructional decision making regarding selection and use of materials Use of progress monitoring Explicit Instruction Differentiated Instruction Sequencing of lesson designs to promote success Use of a variety of practice and application activities Pace and presentation of new content Block of time allotted per subject Individual Instructional decision making regarding placement of the student in groups Use of progress monitoring Communication of expectations and criteria for success Differentiated Instruction Direct instruction with explanations and cues Use of a variety of practice and application activities Pace and presentation of new content	Unit/Lessons Plans Permanent products (e.g., written pieces, worksheets, projects) for skill/degree of difficulty requirements Benchmarks / standards Assignments (calculate % of assign turned in, average amount-% of assignments completed), Length/time required to complete assignments	Stakeholders about: Effective teaching practices Instructional decision making regarding choice of materials, placement of students, instructional strategies Sequencing/pacing of instruction Choice of screening, diagnostic and formative assessments Product methods (e.g. dictation, oral retell, paper pencil, projects) Grouping structures used Accommodations/modifications used Reinforcement management/ engagement strategies Allowable repetition for mastery/ understanding Who is providing the supplemental/ intensive instruction Use of supportive technology Student/group performance compared to peers Patterns of performance errors/ behavior Setting(s) where behavior is problematic Significance of academic, speech, social, task or motor difficulties Onset and duration of problem Consistency from day to day, subjectto subject Interference with personal, interpersonal, and academic adjustment Performance using different modes of expression (e.g. verbal, written, kinesthetic) Teacher perceptions/hypotheses regarding why the student is unable to demonstrate the desired behaviors-academic and/or behavioral Philosophical orientation of curriculum (e.g. whole language, phonics) Expectations of district for pacing/coverage of curriculum	Teachers' instructional styles/preferred styles of presenting Clarity of instructions/ directions Effective teaching practices Communication of benchmarks/expectations and criteria for success How new information is presented Percent of time with direct instruction, whole group instruction, practice time, differentiated instruction, etc. How teachers gain/maintain student attention Academic engaged time Transitions Large group instruction Small group instruction Independent work time Group work time Teachers use of positive reinforcement, student-teacher interaction quality/quantity, (use of direct observation protocols) Time on task External supports necessary to sustain engagement	Classroom environment survey Develop checklists on effective instruction "Things to Look For" and "Ask About"

Even though grade 9 scores on the ELA benchmark indicate some growth, students are not showing accelerated growth because classroom behaviors detract from consistent delivery of instruction.

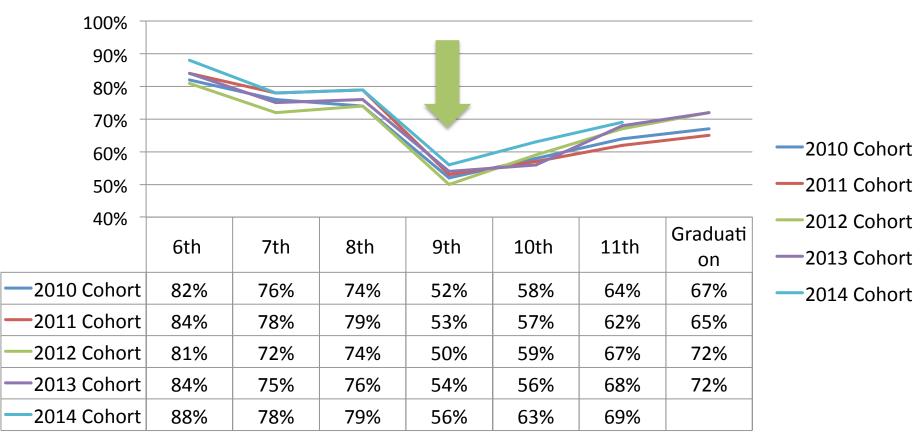
Freshman office referrals are high because teachers are not directly teaching the skills on the school-wide behavior matrix.

The 10th grade benchmark scores are low because the pacing guides do not include all standard assessed for the benchmark.

School Graduation Trend and District Goals



Percent of Students On-Track by Graduation Cohort



9 th Grade Data		
Course Failures	39%	61%
Course runares	(1 of more F's)	(No F's)
GPA	22% (Less than 2.0)	78% (2.0 or Greater)
Attendance	17% (Less than 95%)	83% (95% or Greater)

Course	Failure Rate 2009-2010	Failure Rate 2010-2011	Failure Rate 2011-2012	Failure Rate 2012-2013
Common Core Math I	45%	47%	37%	39%
Math Intervention (Elective)	27%	21%	23%	27%
English 9	14%	8%	12%	14%
World History	13%	9%	15%	13%

39% of students become off-track in 9th grade due to course failures. The mathematics content area resulted in the greatest percent of course failures for 9th grade students.

Step 1: Define the Problem/Identify Goal (What is the problem?)

	_

10.00	

Identify initial concern (What data raised concerns?)	Graduation rate lags behind overall district grad rate and target. Analysis Early Warning System (EWS) – shows that Math I is a predominant course failure for large #s of 9th graders.
What is the desired replacement behavior?	- Graduation rate will equal or exceed District target - First time 9th graders will pass all courses.
Using data, what is the current level of performance?	Current grad rate 69% (Target 92%)
Using data, what is the benchmark level?	Grad rate will increase at least 10% or more (92% grad rate by 2018) Pass rate of Math I at least 80%; Math I intervention at least 70%
Using data, what is the peer performance?	NA Note: Freshman students are falling off track within the first semester of 9th grade with 1 or more course failures.
What is the gap?	Current gap for grad rate = 23% Gap for Passing rate for Math I = 100 - 61%; = 39% Gap for Pass rate for Math I Intervention = 100 - 73% = 27%

±

The problem is occurring because



ICEL Sort

Instruction #	Curriculum #	E nvironment □	Learner
Instruction is how curriculum is taught. ¶ ¶ How content is presented to students can vary in many different ways: ¶ • Level of Instruction ¶ • Rate of Instruction ¶ • Presentation of Instruction ¶ ¶ Is the curriculum being differentiated to meet the needs of the learners? ¶ ¶ Consider: ¶ • instructional techniques ¶ • ip resentation style ¶ • ip questioning ¶ • if eedback technique ¶ • iv cooperative learning ¶ • iv use of graphic organizers ¶ • instructional conversations ¶ • instructional conversations ¶ • indevelopment of academic language/ vocabulary ¶ ¶	Curriculum refers to what is taught. ¶ ¶ Scope and sequence would be included here as well as pacing within and between topics. ¶ Is curriculum appropriate for student? ¶ ¶ Consider: ¶ • → sequencing of objectives ¶ • → teaching methods ¶ • → materials provided ¶ • → difficulty ¶ • → presentation ¶ • → length ¶ • → format ¶ • → relevance ↓	The environment includes the classroom/school, family/community, and peers. " How is the environment impacting learning? T Consider: T	The learner is who is being taught. This is the last domain that is considered and is only addressed when the curriculum and instruction are found to be appropriate and the environment is accommodating. The Variables include motivation, attendance, prerequisite skills, organization/study habits, abilities, impairments, and history of instruction.

+

Happy High School

Hypothesis

The problem is occurring because

teacher and student relationships do not support or encourage participation or academic risks

dents

o co

S C

cem

insufficient
instruction is
not
not
maintaining
high levels of
student
engagement

-track

The

esulted

ailures f

school-wide classroom behavior expectations are not well defined and taught

orade students.

excessive absenteeism during 1st period

E

teachers do not implement high yield instructional practices

is not implemented consistently in all classes

Step 2: Problem Analysis (Why is it occurring?)

Generate multiple hypotheses addressing what you think is at the root of the identified issue.

Hypothesis sentence frame: The problem is occurring because . HYPOTHESIS 1 The difference between expected and current levels of performance in Common Core Math I exist because of excessive absenteeism during 1st period I C E L If students came to school regularly and on time to period 1, then they would Prediction perform at the expected level of performance on Common Core Math I If..., then... Relevant Data RIOT Validated? Yes/No

ŀ

Step 2: Problem Analysis (Why is it occurring?)

No

Generate multiple hypotheses addressing what you think is at the root of the identified issue.

Hypothesis sentence frame: The problem is occurring because _____. HYPOTHESIS 1 The difference between expected and current levels of performance in Common Core Math I exist because of excessive absenteeism during 1st period I C E L If students came to school regularly and on time to period 1, then they would Prediction perform at the expected level of performance on Common Core Math I If..., then... Review of attendance of all Math I classes show that students are attending at a rate of 95% or greater. Further analysis shows that some students that are attending at a Relevant Data lower rate (80-89%) are not performing any differently from those attending at a RIOT higher rate.

Validated? Yes/No

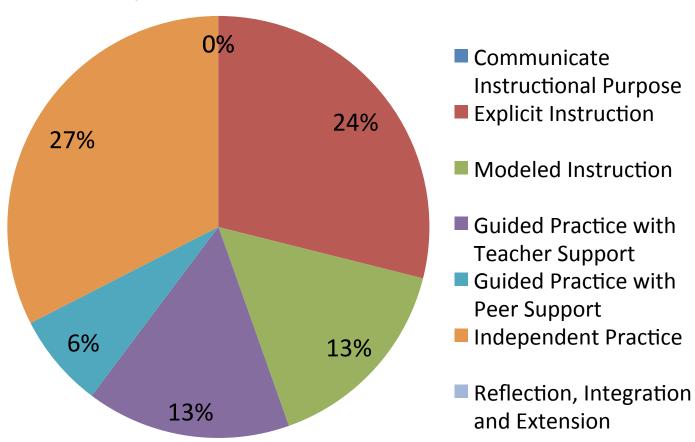
L

+

Model: Happy High School

OBSERVE: Conducted Walkthrough

Instruction Component: Percent of Intervals Observed



<u>Student Survey Data: Productivity</u>: The ILT collected survey data from all current students to better understand the barriers that impede productivity (work completion).

About how often do you not complete your classwork?							
Almost Everyday	1-3 times a	1-3 times a week		1-3 times a month		imes a semester	I always complete my classwork
6%	11%		17%		12%		54%
When you do not	complete your cl	asswork,	it is becaus	se			
I don't understand how to do it	I need my teacher to show me more examples of how to do it		I need my teacher to watch me work and correct my mistakes		The classwork is boring		It doesn't matter if I do my classwork, I will fail anyway
49%	23%		31%			39%	9%
About how often of	do you not comp	lete your	homework	?			
Almost Everyday	1-3 times a week	(1-3 times a month		1-3 times a semester		I always complete my classwork
9%	16%			16% 13		13%	46%
When you do not complete your homework, it is because							
I don't understand	I don't have help	I didn't wr	rite down	I didn't bring h	ome	No one is checking	g I always complete
how to do it	to do it	the assign correctly	ment	the right mate	rials	to see if I did my homework	my homework without trouble
66%	43%	1	2%	13%		3%	43%

Step 2: Problem Analysis (Why is it occurring?)

Generate multiple hypotheses addressing what you think is at the root of the identified issue.

Hypothesis sentence frame: The problem is occurring because _____.

HYPOTHESIS 1	The difference between expected and current levels of performance in Common Core Math I exist because of excessive absenteeism during 1st period
Prediction If then	If students came to school regularly and on time to period 1, then they would perform at the expected level of performance on Common Core Math I
Relevant Data	Review of attendance of all Math I classes show that students are attending at a rate of 95% or greater. Further analysis shows that some students that are attending at a lower rate (80-89%) are not performing any differently from those attending at a higher rate.
Validated? Yes/No	No

MTSS/RtI Problem-Solving Protocol

		MTSS/Rtl Problem-Solving Protocol
+		
	HYPOTHESIS 2	The difference between expected and current levels of performance in Common Core Math I exist because teachers do not implement effective instructional practices.
•	Prediction If then	If Math I teachers used effective instructional practices (e.g. guided and independent practice, checking for understanding etc) then student would be meeting expected levels of performance.
	Relevant Data R I <mark>O</mark> T	Conducted walk throughs and analyzed the results – that show student engagement and effective strategies are not being consistently implemented at a high level.
	Validated? Yes/No	Yes
	HYPOTHESIS 3	The difference between expected and current levels of performance in Common Core Math I exist because insufficient instruction is not maintaining high levels of student engagement.
	Prediction If then	If teachers actively engage students in mathematic instruction, then students would be performing at expected levels.
	Relevant Data	Student focus groups revealed and reinforced the walk through findings that explicit strategies to engage students as well as checking for understanding is not occurring.
ł	V-Ud-t-da V/V-	Yes

Validated? Yes/No

Step 3: Develop & Implement Plan (What can be done to solve it?)

- Select the intervention(s) or strategies that will address the problem and meet the goal
- Develop and implement the plan with fidelity

Fidelity = Sufficiency + Support

Interventions

• What will be done?

• Who will do it?

• When will it be implemented and for how long?

 What data will be collected to monitor intervention on student performance

• How often will the data be reviewed?

Principles of Intervention Design

Interventions should be designed to adjust what is being taught and/or how it is taught.

Principles of Intervention Design

Intervention is...

- Explicit- strategy/instruction to be used are specified clearly (What, who, when, where, how long)
- Focused on instructional environment- actions taken to modify the environment *not* the individual
- Operationalized target behavior that is observable and measureable, includes conditions and criteria for success (how know effective?)
- Interventions must be linked to Tier 1 focus, materials, performance criteria

Criteria for Interventions

- Evidence-based
- Delivered with Integrity
- Implemented for Sufficient Time
- Evaluated Frequently
- Integrated Across Tiers

Plan Development

Lots of different formats, but some critical elements needed

Plan Development

Description of Intervention & Expected Outcomes Implementation

Tier 1 2

3

Frequency (How Often):

Amount of Time (Duration):

When:

Who:

Support

Who: How Often:

Description/Type:

Data Collection

Type:

Frequency:

Questionable

Review:

Next Steps

Positive

Data:

Decision:

Review Dates: Responsible Party:

Poor

Expected Performance on Review Dates:

Plan Development

Description of Intervention → → → ······Tier···1····2······3¶

Math department teachers will use at least 2 student engagement activities during instructional delivery to check for understanding. Consensus around weekly strategies will include: Turn and talk, Partner share, Think, pair, share, Thumbs up/down, Quick writes (and share),

Ц

Implementation ¶

Frequency (How Often): Daily (beginning Jan 26) each Math class will provide at least 3 student engagement strategies/opportunities ¶

Amount of Time (How Long): 60m class periods 1

When: During all Math classes - begin, middle, and end of class 1

Who: Math teachers !!

Support - 1

Who: Math teachers (and/or Math Coach) will conduct one peer observation every 2 weeks to check for use of strategies and level of student engagement.

How Often: bi-weekly observations \(\big| \)

Description/Type: Utilize the observation form to record strategy used and student impact.

Math teachers will meet to review the data during PLT, identify impact and/or difficulties with implementation of strategy and monitor and adjust as necessary \P

Д

Data Collection ¶

Type: Level of student engagement per observation form (beh of students changed?) ¶

Improved academic performance via results of common assessments, homework assignments show that 80% of students are reaching 75% or better on both (did acad perf improve?) ¶

Frequency: Bi-Weekly, Weekly and Daily as appropriate

Review Dates: PLT time bi-weekly → → → → → →

Expected Performance on Review Dates: ¶

- Students will demonstrate one additional or improved engagement behavior per week
- Improved mastery evidenced on assessments and HW¶

Responsible Party: Math teachers across the department, peer observers/coach 1

9

T

9

Step 4: Evaluate (Did it work?)

- Collect and use school-wide, small group, and individual student data to determine if the plan is working to address the problem/goal
- Progress monitor and modify, if necessary
- Evaluate the response to intervention: Good, Questionable, Poor

Evaluating the Effectiveness of Intervention

- Is the intervention evidence-based?
- How "intense" is the intervention?
- What can we "expect" the intervention to do?
- Was the intervention implemented as planned?
- How effective is the intervention with students from similar and different backgrounds?

Good, Questionable, Poor RtI

Decision Rules:

What is a "Good" Response to Intervention?

• Positive Response

- Gap is closing
- Can extrapolate point at which target student(s) will "come in range" of target--even if this is long range
- Level of "risk" lowers over time

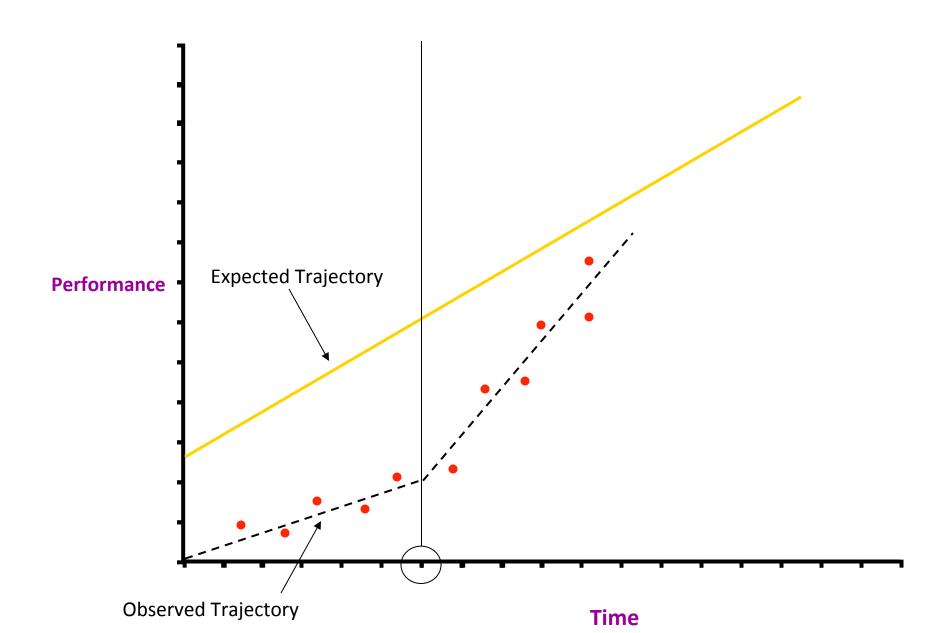
• Questionable Response

- Rate at which gap is widening slows considerably, but gap is still widening
- Gap stops widening but closure does not occur

• Poor Response

- Gap continues to widen with no change in rate.

Positive Response to Intervention



Decision Rules:

Linking RtI to Intervention Decisions

• Positive

- Continue intervention with current goal
- Continue intervention with goal increased
- Fade intervention to determine if student(s) have acquired functional independence.

Decision Rules:

What is a "Questionable" Response to Intervention?

• Positive Response

- Gap is closing
- Can extrapolate point at which target student(s) will "come in range" of target--even if this is long range

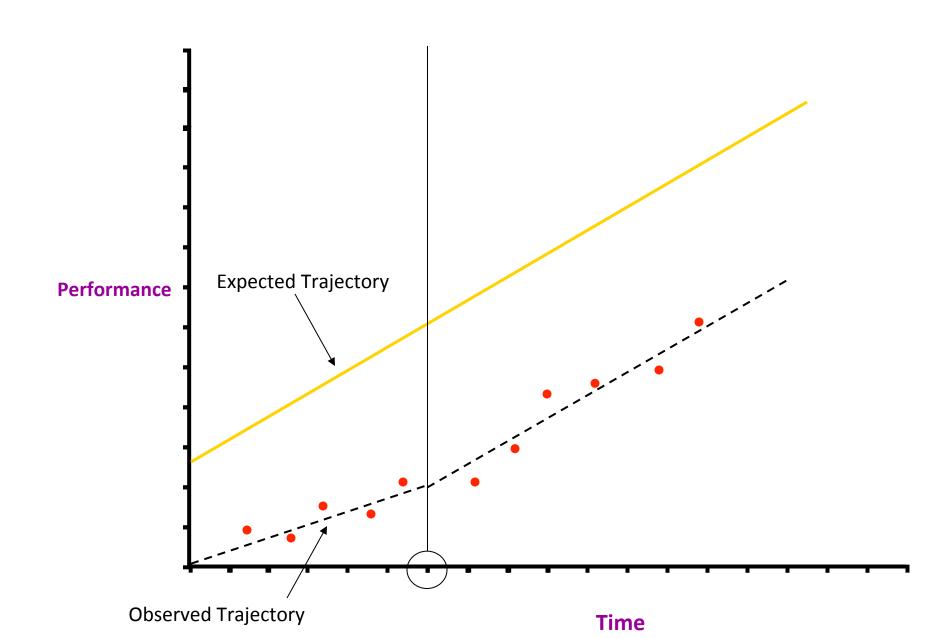
Questionable Response

- Rate at which gap is widening slows considerably, but gap is still widening
- Gap stops widening but closure does not occur
- Level of "risk" remains the same over time

• Poor Response

- Gap continues to widen with no change in rate.

Questionable Response to Intervention



Decision Rules:

Linking RtI to Intervention Decisions

• Questionable

- Was intervention implemented as intended?
 - If no employ strategies to increase implementation integrity
 - If yes -
 - -Increase intensity of current intervention for a short period of time and assess impact. If rate improves, continue. If rate does not improve, return to problem solving.

Decision Rules:

What is a "Poor" Response to Intervention?

• Positive Response

- Gap is closing
- Can extrapolate point at which target student(s) will "come in range" of target--even if this is long range

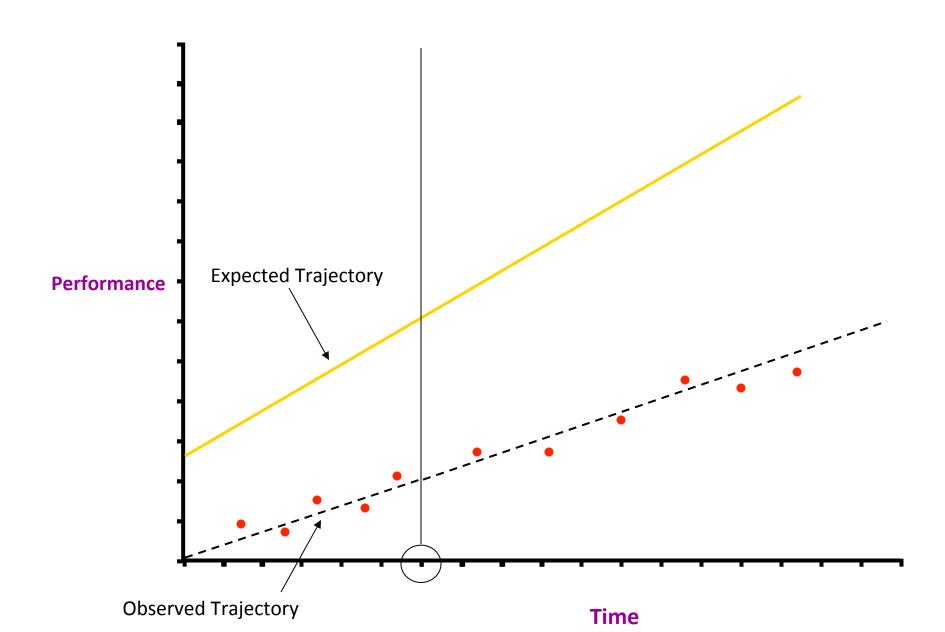
• Questionable Response

- Rate at which gap is widening slows considerably, but gap is still widening
- Gap stops widening but closure does not occur

• Poor Response

- Gap continues to widen with no change in rate.
- Level of "risk" worsens over time

Poor Response to Intervention



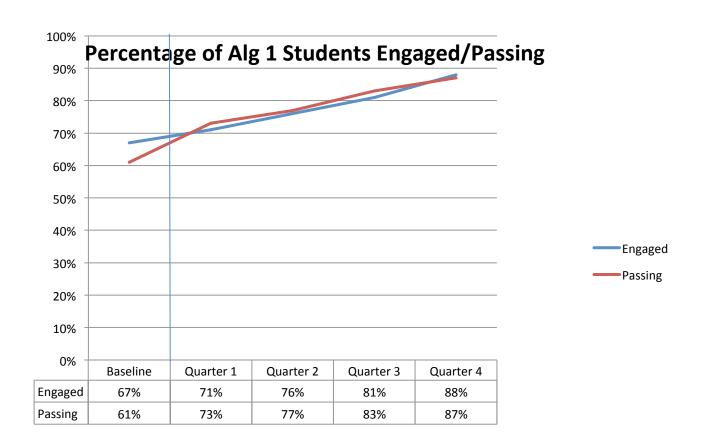
Happy High School Evaluating Intervention Plan

- Was the H_0 Confirmed?

The difference between expected and current levels of performance in Common Core Math I exist because insufficient instruction is not maintaining high levels of student engagement

- Was intervention/instruction effective for students?
- Do you have clear direction for intervention revision?

Happy High School Step 4: Evaluate Response to Instruction



Step 4: Did it Work?

Review/Evaluation of Progress:

Data: Improvement on formative assessments, teacher-made assessment, and both homework completion rates and performance. Student engagement has continued to improve as a result of instructional changes.

Decision: Positive Questionable Poor

(See Chart)

Next Steps:

- Continue instruction and engagement strategies with current goal for the next 5 weeks

Students that are not making at least 75% progress/growth will be grouped at least 1x per week during class for preview, review, reteach opportunities; cooperative learning activities will be strategically utilized to ensure modeling and opportunities to practice with peers more proficient on specific content in need to support. As needed other 'reinforcement time' will be created to ensure students are given sufficient time to build skills and conceptual understanding.

Why Problem Solving Matters...

Those individuals and organizations that are most effective do not experience fewer problems, less stressful situations, and greater fortune, they just deal with them differently.

Fullan

National Resources to Support District and School MTSS Implementation

- www.floridarti.usf.edu
- www.florida-rti.org
- www.nasdse.org
- www.rtinetwork.org

www.rti4success.org

